Madras Revenue Register

THE REVENUE REGISTER.

No. 1.] MADRAS:—THURSDAY, JANUARY 15, 1874. [Vol. VIII.

MADRAS REVENUE RECOVERY ACT, II OF 1864—I.

The disparity between law and abstract justice is nowhere so strikingly exemplified as in the working of the Madras Revenue Recovery Act, II of 1864. The Revenue system of the Madras Presidency may not inaptly be likened to a vast private estate managed for its owner by agents who are unacquainted with the cultivators and the variety of interests possessed by them; but who, being invested with complete and arbitrary authority as regards the collection of rents, use that authority with no sparing hand in enforcing payment to the last farthing, regardless of from whom it is exacted, or of the rights trampled down in their reckless career. It may be a startling fact, but it is nevertheless true, that our Revenue authorities do not in many cases know, nor do they care to know, who is the actual owner and occupier of Government land, and as such responsible for the dues of Government. This anomaly is attributable to this circumstance. They recognize no one as the owner of land who has not a puttah for it in his name. The Courts of Law, on the other hand, do not regard the puttah as a title-deed of property, and often declare others than the actual puttah-holders to be the owners of the land in question. As a natural consequence, puttahs are not so eagerly sought after as they should otherwise be; and to make matters worse, the Revenue authorities, whose interest it ought to be to facilitate the registry of all titles, so as to ensure the correct and equitable realization of the Government demand, positively throw obstacles in the way of such registration by refusing to grant puttahs for fractions of survey fields. A puttah is granted by the Revenue authorities when Government waste land is applied for and assigned for cultivation, and the puttahdar is then registered as its owner and is ever after looked to for payment of the Government revenue; but there is no compulsory provision for correcting this registry when the ownership is changed, *i.e.*, when the puttahdar, in exercise of his undoubted right, alienates the land by sale, gift, mortgage, or otherwise: he may thus divest himself of that which constituted his liability to pay rent to Government, viz., the occupancy of Government land, without even intimating the fact to the authorities; so that, if after such alienation, the Government dues happen at any time to be unpaid, the puttahdar is still considered the landholder, and service of notice on him is deemed sufficient to justify a recourse to the coercive measures provided

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by the Revenue Recovery Act. This confusion, combined with the stern and arbitrary provisions of the Act itself, compel our Revenue officers every day to give their countenance and sanction to proceedings which their conscience condemns as unjust and harsh, but whose rigour they are powerless to check or modify. And the fact that all proceedings under this Act are initiated by, and carried out through the agency of, ill-paid and unscrupulous village officials, does not certainly diminish these evils.

We shall be better understood if we cite a few cases to illustrate some of the hardships which are of the commonest occurrence.

(I.) A obtains on darkast a survey field measuring say fifteen acres, and a puttah is issued in his name by the Revenue authorities recognizing him as its owner. He then sells a portion of it, say ten cawnies, to B, a ryot, and the remainder to C, a friend or relation of the maniagar of the village. The Revenue authorities, however, in accordance with Departmental Rules, decline to register B and C as the owners of portions of this field. B and C enjoy their separate shares and pay their proportion of the revenue. C, after a time, falls in arrears; but process is issued against A, who has long ceased to enjoy the land, as he alone is still absurdly regarded by the Revenue Department as its owner, and as the defaulter to Government. He either does not care what becomes of the land, or has run away, or is a man of straw. The first notice being unheeded, the land is attached and sold. B meanwhile remains in entire ignorance of all that is going on, and (if he lives far enough) in fancied security of his rights; for having himself been most punctual in discharging his portion of the Government dues, he "poor easy man" has no reason to suspect that anything is wrong. The land is then purchased for little or nothing by C, the actual defaulter himself, who is thus even benefited by his default. Very probably C purposely let himself fall into arrears, in order to get B's land sold, in view to purchasing it himself. The maniagar's favour has helped to keep the proceedings secret from B; the maniagar not being legally bound to give any intimation to B, for he was not the puttahdar. He has done his duty by serving the notice on A, the ostensible landholder. The iniquity of this procedure passes comment; and yet not a single provision of the Act or of the Revenue Rules have been violated in this transaction.

(II.) A, a puttahdar, mortgages the greater portion of his puttah land to B; but puttah is not transferred to the name of the mortgagee, or cannot be transferred by reason of the mortgaged portion being less than a survey field. The latter, however, continues to enjoy the land and to pay for it; when, owing to remissness in the payment of some one kist or another, notice is served on the puttahdar A, who, of course, does not care to communicate it to B. The land is attached and the sale is to come off in due course. B comes to hear of it at the last moment, on the day fixed for the sale. He runs with the money in hot haste, and as the sale has not begun, offers to pay up the arrears and costs of process, and prays that the sale may be suspended. But the authorities are powerless to help him, as Section 37 of the Act peremptorily provides that such tender must be made "before sunset on the day previous to that appointed for the sale." B urges that but for the beating of the tom-toms and the gathering of people, he should have remained in utter ignorance of the intended sale of his land, and that he could not, therefore, have tendered the money earlier; but, stern as the bed of

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Procrustes, the Revenue law knows no forbearance. It is inexorable, and must proceed with the work of ruin, not content with taking what is justly its due. The land is sold; but worse than that, any surplus that might remain out of the sale proceeds after satisfying the Government dues, is paid to A (vide Section 42), who alone is regarded as entitled to it, the Revenue officers knowing of no owner who has no puttah. A may be, and often is, a needy man; and when he finds himself, after having mortgaged or sold away all his property, with an amount of ready cash which he never expected, much less hoped, to have, what wonder if he should take it into his head to give B the slip. Nor is this all: the land has been sold *free of all incumbrances (Ibid)*; and the mortgagee, whose only fault may have been a slight want of punctuality, is a ruined man. This may be "*Law*;" but we are constrained to ask is it "Justice?"

(III.) A, a puttahdar, was indebted to B, who having obtained a decree against his land, sued out execution and purchased the land at a Civil Court auction. Puttah, however, continued in the name of A, and at the time when his land was sold he was in arrears to Government; but no steps were taken to recover it from him or even from B, who continued to enjoy the land and pay the current kists for four or five years, after which he sold it to C. The latter purchased it for its full value and continued to enjoy it. The advent of an energetic Revenue officer led to inquiry into the old balances due to Government, when it was discovered that four or five years' revenue was due to Government on C's land, such arrear of revenue having accrued during A's occupancy of the land. A was served with a notice, but on such notice being unheeded, the land which had passed through so many hands and was so long in the undisturbed enjoyment of C, was attached, notwithstanding that he had been most punctual in his own payments, and had paid a heavy price for the property in ignorance of the existence of any arrears, of which the very authorities themselves were oblivious. Thus C was compelled to pay this amount at the risk of being deprived of his land.

(IV.) A holds two separate pieces of land on a puttah. Being in arrears to the amount of Rupees 7 on field No. 1, the land is attached and sold for Rupees 15. The surplus sale proceeds, after deducting the arrears, are held in deposit to be refunded at some convenient time. Meanwhile, he again owes to Government 3 Rupees on account of field No. 2, when the village officers, to pay him off for an old grudge, attach his field No. 2, while they could well have paid themselves the amount of the arrear in question out of the surplus sale proceeds of No. 1 field, 8 Rupees of which still remain to A's credit in the public accounts, and thus have left him in the peaceful enjoyment of his property. The law gives a discretion to proceed either against real or personal property in the first instance; but however hard A's case may be, all the consolation he can get is an intimation that none of the proceedings held in the matter is opposed to the letter of the law.

(V.) Twelve persons, one of whom is a maniagar of the village, are enjoying land on a joint puttah, each however cultivating a distinct share and paying his quota separately to Government. As the Revenue authorities never take cognizance of the individual interest of each of the puttahdars in the land, nor of the proportions in which the Government dues are paid by them, the maniagar, whenever he falls in arrear, can, without violating the law, cause any one of his innocent co-sharers' portion of land to be attached or his effects distrained;

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and the reason of this is that "the land," which means the whole or any portion of it, is "the security of the public revenue"* and the liability of joint puttahdars is *joint and several.*

Instances like the above can be multiplied; but these have been selected from cases that have actually occurred, and are of almost daily recurrence. It behoves us, therefore, to examine into the causes that tend to these deplorable results, and to point out some means of mitigating such evils; and this we shall endeavour to do in our next issue.

* Vide Section 2.

THE EUCALYPTUS AS A DEFENCE AGAINST FEVER.

The local press has already noticed in a short extract the disease-destroying power of the Australian "*Eucalyptus Globulus,*" and its capacity to reclaim swampy ground. We have now before us *M. Gimbert's* evidence on the subject, resulting, beyond the shadow of a doubt, in the efficacy of this noble tree in absorbing pestilential miasma in well known and dreaded localities. *M. Gimbert* speaks from a practical and not a theoretical point of view, and cites the farm of *Pardock,* twenty miles from Algiers on the banks of *Harnyze*—a most pestilential spot—where fever was ever present. In the spring of 1867, 13,000 of the Eucalyptus were planted, since which not *one* case of fever has occurred. With respect to its reclaiming marsh lands the writer remarks, "In the neighbourhood of Con-" stantine, the farm of *Ben Machydlin* was "equally in bad repute. It was covered "with marshes both in summer and win-" ter; but in five years the whole ground "was dried up by 14,000 of these trees, "and the farmers and children now enjoy "excellent health." To talk of planting trees in thousands is somewhat of an undertaking for individual proprietors; but we see no reason why a thin belt should not be made to surround feverish villages in the vicinity of unhealthy jungles, especially since M. Gimbert tells us of the perfect immunity from fever, at a station house at one of the ends of a viaduct in the department of *Var,* by the planting of only 40 of these trees. So unhealthy was this station, that a year's residence was the outside limit for any official to remain, but now it enjoys the salubrity of any other station on the line. The West Indian Islands, Cuba in particular, where the tree has been largely introduced, is comparatively free from fever and other paludal diseases.

In India we do not recollect seeing the tree, except in small numbers on the Mysore plateau, and in profusion on our hill tracts; the soil and climate of the latter seeming to suit it admirably. But we see no reason why it should not grow in our coffee-producing districts, and by degrees acclimatize itself to drier soils. We recollect in our own small experience the power this tree has of absorbing water, if we may judge by its having destroyed more than one spring at Ootacamund. This quality may not perhaps be always an advantage; for to dry up a spring in a country already arid enough by nature, might depopulate a thriving village, and "the remedy," in such a case, "would be as bad as the disease." What the antiseptic qualities of this wonderful tree are we are not told; but to those who know it we re-call the pleasant odour emitted when passing in its vicinity—a smell not unlike camphor and peppermint combined. Should the tree possess the virtues given to it in the paper we quote from, we see

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no reason why a plantation should not be made at Kalár, at the foot of the Neilgherries; and if successful, the line of rail could be extended to the extreme foot, and the deadly fever—the bug-bear of the locality—defied.

We commend the experiment to Government, and to planters and others, whose occupations lie in such localities. Our own experience is that the *Eucalyptus Globulus* will not grow in the low countries, or survive a hot season, but acclimatization may do much to remedy this. Nature, when assisted by art, is ever kind, and we see no reason why the seeds from those trees growing on the Mysore plateau should not with care be successfully germinated and reared below the ghauts. The wood of all the Eucalypti is useful for building and mechanical wants: the very leaves can be utilized in expressing from them an essential oil largely used by perfumers, and for roofing shingles as it splits even and easily.

CORRESPONDENCE.

To the Editor of the Revenue Register.

SIR,

At page 326 of the *Revenue Register* for November last, one of your correspondents has stated it as his opinion, and you seem to agree with him, that when a piece of land is sold for arrears of rent under the Madras Act VIII of 1865, the purchaser buys it subject to the incumbrances upon the land.

It has always been the practice, as far as I am aware, to view the rent on land as the first charge against it, all others being subordinate to it; and no difference has ever been made in this respect between *rent* and *revenue*. In Section 32 of the Rent Recovery Act, it is provided that "the prior claim to rent due" shall not be barred by claims of "previous sale, mortgage," &c., when the products arising from that land are attached. When such prior claim is granted as regards moveable property, which is in the slightest degree connected with the land, it appears to me that the claim must *á fortiori* hold good with regard to the land itself. Further, in the latter portion of Section 40, it is stated that the rules regarding the sale of moveable property shall be followed in the case of immoveable property. We should consequently read the several provisions regarding the sale of moveable and immoveable property together; and by taking Section 32 along with Section 40, it seems to me clear that it was the intention of the legislature that the rent on land should have priority over all other incumbrances on it. You will observe in Section 32 that even in cases of *sale*, no title is allowed as against the rent due to the landlord, and I am therefore of opinion that your correspondent "P" is wrong in his view that D (in the case stated by him) takes the land subject to C's lien on it. The judgment of the Privy Council, cited by "P", seems to go upon the principle that, under the peculiar circumstances of that case, it would be inequitable, in the absence of positive law, to declare that the first purchaser lost his right to the land by the subsequent sale. I do not know what the Statute law is on the subject in Bengal. Here it has long been held that the land is security for its rent, and this has been upheld and confirmed by subsequent legislative enactment.

Yours obediently,

X. Y.

To the Editor of the Revenue Register.

SIR,

Observing from the advertisement in the *Madras Mail* that you wish to receive communications regarding various subjects, including cattle breeding, I wish to call attention to a suggestion made by Mr. Dykes, formerly Collector of Nellore, regarding a proposed improvement in cattle breeding in that district, whereby a very large increase might be made to the stock.

It is well known that the Nellore cattle are a very superior breed, both for heavy draught and for milking purposes, and the question arises why the breed of cattle should be better in that district than in adjoining ones, such as Cuddapah, North Arcot, &c. In point of fact, so far as I have learned, the so-called Nellore cow is the product not of the Nellore plains, but of the hilly country to the north of Ongole and the Palnâd of Guntoor, now Krishna District.

In almost all districts which breed cattle, they are pastured in the hilly ranges where the jungle grass is of a very nutritive quality; but this fact, by itself, will not account for the

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pre-eminence of a particular breed, since it is common to all.

May not the Nellore breed have been originally derived from the table lands of Central India, or from Gujerat, where the cattle attain a size never seen in more southern parts.

It is stated that in Nellore the cow is not put to the bull till she attains years and is of full growth. Mr. Dykes' suggestion was to attempt earlier breeding, such as is adopted with the improved and earlier matured breeds at home, and so increase the number of calves a cow is able in the course of nature to drop.

There can be no doubt that the proposition, if adopted, would lead to an increase of stock; but, on the other hand, the native breeder may have reason for the deferred period at which the cow is put to the bull.

It may be that calves borne by a cow which has attained her full growth and strength are of a superior size and constitution to those produced by younger cows, and that this may be the reason which influences the breeders of stock; and that so far from the suggested increase being an advantage, it might lead to the deterioration of the breed.

At all events it would be a matter of interest to know the exact age at which the cow should be allowed to bear.

I have inspected vast herds of cattle grazed in the hilly taluk of Collegal and the above ghaut portion of the Bowany taluk, from which are produced a valuable bullock, allied in appearance to, if not identical with, the Salem and Mysore breed: these are all sold off at 18 months or so. But I have not seen cows approaching the size and build of the Nellore cow; and so there seems some foundation for the idea that the Nellore breed of large cattle may have originally been from a northern breed.

The subject of cross breeds is also one of interest. Many years ago I was requested to send a lot of Nellore bulls to Tanjore to cross with the indigenous cow. I did not think the experiment would succeed, because of the disparity of size. But my objection was overruled, and subsequently heard that the bulls were found useless from the above cause, and were sold off at a loss. No irrigated districts, or those with a heavy rainfall, seem to produce large cattle, for the local breed in Tanjore, Tinnevelly, Coimbatore and Malabar are small, and it is cheaper to import cattle from Mysore and Nellore, than to attempt to breed them locally. Even in Cuddapah and Bellary this plan is adopted by the ryots, and I have heard of as much as Rupees 600 being given for a pair of large Nellore bulls for heavy ploughing work, or for raising water from the deep wells. The natives are keenly alive to the value of breed. I have been offered Rupees 40 for a ten months' bull calf of the Nellore breed, which would require to have been kept two years before it could be of any service.

If, therefore, we find that the people are well aware of the value of a breed and acquainted with the best means of producing it, is there really any advantage in cattle shows? The cattle are produced not with a view to earn any "present" from Government, as the prize is looked upon, but for trade and profit.

I attended in 1854 one of these shows held at Vinuconda in the Guntoor District, and the size and quality of the bulls shown could not have been surpassed.

Is there any reason to suppose that the breed has been since improved in consequence of rewards?

The indigenous breed is shown and rewarded, but that seems all. No cattle are brought at expense and risk from distance to compete; in fact, no one will undergo such risk unless assured of success; and the reward even would not pay the expenses. There does not seem to be an analogy with Great Britain in such exhibitions: there cattle are carried with facility to the place of show; distances are not so great, and exhibitors are richer; and sales on the spot obviate loss. The result seems little better than Lord Elgin's prize of Rupees 10,000 for the best sample of cotton, which was gained by a party of European extraction, out of a few acres hired for the experiment; and the only other competitor was Ramreddy, the largest cotton cultivator of the Cuddapah District, who was induced to compete, but who was not able to render an account of the mode and principle of cultivation as required by the terms of the prize. This money could not have produced any good effect.

To sum up; what seems to be required in this country is a journal in which all improvements or useful suggestions in regard to husbandry, cattle breeding, horticulture, building, &c., might be recorded. It should not be confined to official communications, for officials are not so well posted in these matters as others, and the official record of experiments is usually a melancholy report of failures.

It should be free from personalties which, owing to the state of the digestive organs, are so frequent; and if each would contribute his quota of experience, some good might result.

Yours faithfully,

X.

Is not our Journal exactly what is required?—ED. *R. R.*

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HER MAJESTY'S PRIVY COUNCIL.

[Bengal Case.]

Zemindary—Impartibility—Succession— Special custom—Mitakshara—Dayabaga.

S. S., owner of a taluk in Bhaugulpore, died leaving two sons, M. and P. M., the elder, succeeded to the taluk, and having died was succeeded by his son D., who again demised leaving his infant daughter his heir. The question was who should take the taluk; this infant daughter, or her great uncle P.?

The case made for the daughter was that the estate was impartible and must descend in the line of the elder son. The case for P. was that the estate was joint family property; that the law of the Mitakshara prevailed in Bhaugulpore, and that on the death therefore of D., the estate fell to P. It appeared, however, that the estate was originally attached to the Zillah of Beerbhoon, where the Dayabaga prevailed, and was only recently transferred to Bhaugulpore: the further question raised therefore was whether the Dayabaga or the Mitakshara was to be applied; for under the former, the daughter would at all events succeed to the half share of her father D.; whereas under the Mitakshara, P. would succeed to D.'s half share also, subject to the daughter's maintenance.

Held *that, as the property was admittedly ancestral, P. was at all events entitled to half the taluk; but that, in the absence of specific findings and evidence on the point, the case must be remanded for trial of the issue whether in consequence of the transfer of the taluk from Beerbhoon to Bhaugulpore, the succession to the remaining half was to be governed by the Mitakshara or the Dayabaga.*

Judgment of the Lords of the Judicial Committee of the Privy Council on the appeal of the Court of Wards on behalf of Mussamut Sheo Soondooree *v.* Pirthee Singh and others, from the High Court of Judicature at Fort William in Bengal, delivered 19th November 1872.

Present.

Sir James W. Colvile.
Sir Barnes Peacock.
Sir Montague Smith.
Sir Robert P. Collier.

Sir Lawrence Peel.

This appeal was heard some months ago. Whilst it stood for judgment their lordships were asked to suspend their decision, in the hope that a proposed compromise would be effected. They have since been informed that the negotiations for a compromise have failed, and that the parties desire to have their lordships' judgment; which I now proceed to deliver:—

The question in the cause was the right of succession to an estate called Taluk Sunkra, forming part of Tuppa Belputta in Zillah Bhaugulpore. The estate was unquestionably held by Soomaer Singh, the common ancestor of the appellant and respondent, and, having been resumed by Government with the rest of Tuppa Belputta, was temporarily settled with him in 1840. Soomaer Singh died in March 1851.

The case of the respondent (the plaintiff in the cause) as stated in the plaint is that Soomaer Singh left two sons, viz., Manick Singh, and the respondent, the latter being a minor at the date of his father's death, and continuing to be so until March 1865; that Manick Singh took possession of the property, but, at least in law, held it on behalf of himself and his infant brother as members of a joint and undivided Hindoo family; that on Manick's death his son Durbejoy took his place as managing member of the joint family; that on the death of Durbejoy, leaving only a daughter, the respondent became entitled, under the law of the Mitakshara, which is the law of Zillah Bhaugulpore, to the whole estate, the daughter (the appellant) being entitled only to maintenance; but that, nevertheless, he had been dispossessed by the Court of Wards, acting on her behalf, which had since procured a permanent settlement of the property to be made in her favour.

The case made by the Court of Wards on behalf of the appellant is that Soomaer Singh left only one legitimate son, viz., Manick (the respondent being illegitimate); and, accordingly, that the estate descended from Soomaer to Manick, from Manick to Durbejoy, and from the latter to the appellant. The answer set up also an alternative defence, viz., that according to the custom and usage of the family of Soomaer Singh, and the Zemindars in the neighbourhood, the right of inheritance has generally been vested in the line of the family

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of the eldest son in succession. The only issues settled in the cause (page 72) were—

1. Whether the respondent is the legitimate or illegitimate son of Soomaer Singh.

2. Whether the law of primogeniture obtains in the family of Soomaer Singh or not.

A further question, which does not appear on the pleadings, was raised in the course of the suit, viz., whether the district in which the estate is situate (Tuppa Belputta), having been transferred as late as 1795 from Zillah Beerbhoom, of which it was theretofore part, to Zillah Bhaugulpore, the general law of succession to be applied to the case was that of the Dayabaga, or that of the Mitakshara.

The respondent being out of possession, the burthen of maintaining the first issue, of course, lay upon him. And if he has not done so, his suit must stand dismissed. But if it be assumed that, as the High Court has found, he has succeeded in establishing his legitimacy, it becomes material to consider what in such a case would be the remaining questions between the parties.

The property is admitted to be ancestral; and the family, if not admitted, must be presumed to be joint. Hence, in the absence of a special law of descent, founded on family or other custom, the estate at Soomaer's death would descend to his two sons as Hindoo co-parceners; and on Manick's death, Durbejoy would succeed only to his father's moiety. The respondent, therefore, would unquestionably be entitled to at least a moiety of the estate.

Whether he would be entitled to more depends on the question, what is the general law of succession to be applied? Under the law of the Mitakshara he would succeed to Durbejoy's share, subject to his daughter's right to maintenance; under the law of the Dayabaga she would succeed to her father's share, in preference to her uncle.

To establish, therefore, the appellant's title to the whole estate, she must prove a special and customary rule of succession; to establish her title to even a moiety, she must show that the succession is to be regulated by the law of the Dayabaga.

Again, the second issue, as settled, does not comprehend the whole of what is essential to the appellant's title to the whole estate. For, let it be granted that the rule of primogeniture did obtain in Soomaer Singh's family, that circumstance would, no doubt, support the title, first of Manick, and afterwards of Durbejoy to the estate as impartible. But on the death of Durbejoy the next male member of the joint-family would, under the law of the Mitakshara, be entitled to succeed to the ancestral estate, though impartible, in preference to the daughter of the last holder. This was admitted in the Sivagunga case, although, on the ground that the impartible estate in question was the separate acquisition of the last holder, it was there ruled that it ought to descend, according to the rule of succession to separate estate, to his widow. Hence, to make out the appellant's title to the whole estate, it must be shown both that by custom it was impartible, and descended according to the law of primogeniture; and also that either by special family custom, or by the operation of the law of the Dayabaga, as the law which should govern the case, she, on the death of her father, was entitled to succeed to it, in preference to her great uncle.

It is next to be considered what are the proper findings on the settled issues.

The Principal Sudr Ameen altogether omitted to decide the first. The High Court, on a careful review of the evidence, came to the conclusion that the plaintiff (the present respondent), had established his legitimacy; and, at the close of the argument at the bar, their lordships were clearly of opinion that no case had been made for disturbing that finding.

Upon the question of the alleged family custom, the decisions of the two lower Courts were in conflict; the Principal Sudr Ameen holding that the evidence showed that the estate was impartible, and that the appellant was entitled to succeed to it. It is not, however, very clear whether he rested the appellant's right of succession on family custom, or on the law of the Dayabaga, treating that as the law which was to govern the case. The High Court held that there was no proof of any custom which varied the ordinary law of inheritance; that the law to be applied was that of the Mitakshara; and, consequently, that the respondent was entitled to recover the whole estate.

The point to be first considered on this part of the case is, whether the first of these propositions of the High Court is correct.

The fresh evidence adduced by the appellant in support of the alleged custom is very slight. Of the five witnesses called by her, two only speak to the custom. One of these does not put it higher than a custom by which the eldest son takes the whole estate; and, in answer to the plaintiff's pleader, admits (thereby recognizing the applicability of the Mitakshara), that on the death of the eldest son, after he has taken possession of the property, leaving only a daughter, the brother would take before the daughter. (See page 72, line 39).

The documentary evidence does not carry the case much further. Mr. Sutherland's report

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does not show more than that in the year 1819 there was great confusion and uncertainty as to the nature of the sub-tenures in Tuppa Belputtah; that Soomaer Singh was then claiming many villages to which he was not entitled; that the documents of title produced by him were untrustworthy; and that if the villages specified in List No. 1, page 35 (of which only two are identified as villages now in dispute) were originally held on a ghatwallee tenure, the ghatwals in that district (see page 29, line 50) had virtually ceased to be such, and had become mere under-farmers. It does not appear what was done on this report; but it is certain that many years after its date, *i.e.*, in 1840, the taluk in dispute was resumed by Government, and settled as ordinary malgoozary land with Soomaer Singh.

The other documentary evidence of the appellant proves little or nothing. But it is remarkable that the proceedings for the mutation of names on the deaths of Soomaer and Manick, which form part of it, contain the usual inquiry whether there were other heirs of the deceased; and that in neither instance was the claim expressly asserted as one founded on the right of primogeniture.

On the other hand, it is singular that the strongest evidence in favour of the position that the estate had been treated as in the nature of a Raj is to be found in the oral testimony given on the part of the respondent (See in particular witness No. 5, page 28). But this evidence would at most prove that the property, though held as a Raj, belonged to a joint family, of which, not invariably, the eldest son of the last holder, but the most competent male member, was entitled to succeed as Rajah; and, further, that the original possessions of the family, viz., those held by Jyo Singh, had been the subject of partition.

On the whole, whatever may have been the earlier history of the estate, which was, at most, only a sub-tenure of some kind under the Rajah of Beerbhoom, there seems to their lordships to be no sufficient ground for disturbing the conclusion of the High Court, that since the resumption it is to be treated as subject to the general law of succession.

The result of this is that, if there are no legitimate descendants of Soomaer Singh other than the respondent and the appellant, the respondent is entitled in any case to recover half the estate; and, if the general law of succession is that of the Mitakshara, to recover the whole.

What, then, is the general law of inheritance by which the case is to be governed?

The High Court applied the law of the Mitakshara as that which undoubtedly rules in Zillah Bhaugulpore; and refused to listen to the plea founded on the transfer of Tuppa Belputta from Beerbhoom to Bhaugulpore in 1795, treating it as "started at the eleventh hour on appeal." This last position is not, in their lordships' view, correct; because the point is expressly taken by the Principal Sudr Ameen in his judgment, and seems to have been one ground of his decision. (See page 77, line 40).

The applicability of the Dayabhaga to the case may depend upon either of two circumstances. It may be that the whole of the transferred district has continued to be governed by its old law, in which case the law would be an exceptional local law; or the particular family, though now domiciled in a zillah governed by the Mitakshara law, may have continued to retain the law of the Bengal school as an exceptional family law. If the first state of things exists, the fact must be notorious to those who administer justice in that part of the country. The second state of things would require to be shown by evidence, and the record contains no evidence on this point. Nor the pleadings and issues being what they are, could it be expected to do so?

The two lower Courts being, in fact, in conflict as to the law applicable to the case, and the question having been insufficiently tried, it seems to their lordships desirable to remand the cause for further inquiry on this point.

The case has hitherto been dealt with as if there could be no dispute as to the property, except between the appellant and respondent. The High Court has almost assumed this to be so, remarking, incidentally (page 82, line 55), that of the four sons of Soomaer, other than Manick, Pirthee was the only survivor. On the argument of the appellant, however, it was shown, that on the face of the oral evidence given for the respondent, it was stated, that of these sons, Teeluck at least was legitimate, and had left issue (see pages 24 and 25). This fact (if true) would affect the original shares of the respondent and Durbejoy in Soomaer's estate; though, unless Teeluck outlived Durbejoy, it would not affect the respondent's right to succeed to that person's share, whatever it may have been.

The respondent having to recover by force of his own title, is bound to show that the whole inheritance of Soomaer is, according to the law of the Mitakshara, now vested in him; and his own evidence leaves so much doubt on this point, that a remand upon it also seems to be necessary.

The learned counsel for the appellant sought also to set up a *jus tertii*, as regards some of the earlier generations of this family, appearing in the Genealogical Table at page [illegible]. It seems to be clear that there was a partition of some kind amongst the sons of the original

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ancestor Jye Singh; but it is not so clear that the share of Tribhoobun, one of these sons, was ever divided amongst Soomaer and his other sons.

Their lordships, however, are not disposed to invite litigation, by extending the inquiry beyond the descendants of Soomaer. Both parties have come into Court representing him to have been the sole owner of the estate; and if there were co-sharers with him, and there are now descendants of such co-sharers, it will be open to them, whatever may be the result of this suit, to assert their title in another and independent suit.

Their lordships will, therefore, humbly advise Her Majesty to affirm the decree under appeal in so far as it declares that the respondent was the legitimate son of Soomaer Singh; to reverse the rest of the said decree; and to remand the cause to the High Court, with directions to determine the appeal from the decree of the Principal Sudr Ameen, pursuant to the provisions of Section 354 of Act VIII of 1859, after causing the following issues to be tried, viz.:—

1st. Whether Soomaer Singh left any and what legitimate sons, other than Manick Singh, in the pleadings mentioned, and the respondent; and, if so, whether they are living or dead; and, if any of them are dead, when they respectively died, and whether they have left any and what male descendants.

2ndly. Whether the estate of Soomaer Singh, which was formerly within the limits of Zillah Beerbhoom, having been transferred to Zillah Bhaugulpore, the succession thereby becomes liable to be regulated by the law of the Mitakshara; or whether, by reason of any local or family custom, such succession, notwithstanding the transfer, continues to be governed by the law of the Dayabhaga.

Their lordships will also recommend that the costs of this appeal, on both sides, be taxed; and that the amount of such taxed costs be certified to the High Court, and be dealt with by that Court as part of the costs in the cause.

CIRCULAR ORDERS OF THE BOARD OF REVENUE.

No. XX.

STANDING No. 391-6.

COLLECTORS' SANCTION NECESSARY FOR PROSECUTION OF VILLAGE MAGISTRATES.

Proceedings of the Board of Revenue, dated 28th November 1873, No. 2,429.

G. O., dated 22nd October 1873, No. 1,682, Judicial Department, communicated to all Collectors with Board's Proceedings, dated 10th November 1873, Miscellaneous No. 7,630.	PROSECUTIONS of Village Magistrates for offences committed by them in their magisterial capacity should not be permitted by Collectors without their own sanction.

No. XXI.

STANDING No. 254-1.

EXTRA PAY TO CUSTOMS-HOUSE OFFICIALS FOR EXTRA WORK.

Proceedings of the Board of Revenue, dated 28th November 1873, No. 2,436.

CLAUSES 3 and 4, Section 1, page 1, of the revised Sea Customs Manual, from the word "*parties*" to the word "*holidays*" are cancelled. For these the following rules, sanctioned in Board's Proceedings, dated 23rd May 1872, Miscellaneous No. 3,735, should be substituted:—

Customs-house officials, who may be required to transact business at the Customs-house out of office-hours for the convenience of ship-owners and others, shall be entitled to extra remuneration according to the following scale:—

From 6 to 7-30 A.M., or 5 to 7 P.M., half day's pay.

From 6 to 9-30 A.M., or 5 to 9 P.M., or later, one day's pay.

One day's full pay to all Conicopollies and Peons for working out of office-hours, either morning or evening.

On Sundays and close-holidays, two days' full pay for all Customs officers, including Conicopollies and Peons.

2. These rules are applicable to all ports.

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OFFICIAL PAPERS.

Cultivation of Para Caoutchouc in Malabar.

Proceedings of the Madras Government, Revenue Department, 10th November 1873.

Read the following papers :—

From Major R. H. BEDDOME, Inspector of Forests, Ootacamund, to the Hon. R. A. DALYELL, Acting Secretary to Government, Revenue Department, dated Ootacamund, 11th August 1873, No. 1,861.

With reference to G. O., No. 766, of the 22nd July 1873, I have the honour to inform you that the Pará Caoutchouc (different species of Hevea) appear to grow in tropical America from about 5 N. to 5 S. latitude at or near the sea-level in a humid climate, with a mean temperature of 78° or 80°, with the extremes at 70° and 90°, and an annual rain-fall of 60 to 90 inches. All these conditions can be obtained in Ceylon and along the Travancore ghauts at 1,000 to 2,000 feet elevation; but the farther north we go, the longer becomes the season of drought. At Nellumbore the seasons differ considerably: some years the north-east monsoon quite fails, and the March and April showers are also sometimes a failure; in such years there may be a drought of five or nearly six months; there is always some three months of exceedingly dry weather. The failure of the north-east monsoon is, however, unusual at Nellumbore; but as this monsoon seldom extends to Coorg and South Canara, the longer season of drought is usual in these more northern districts.

2. The Hevea is closely allied to the *Aleurites* (often called the Belgam Walnut)—a tree originally introduced into this Presidency from the Moluccas, but now growing admirably at Manantoddy and other parts of Wynaad.

3. Though I am afraid that March and April at Nellumbore might be fatal to young seedlings of Hevea, I believe it would answer on the Carcoor ghaut at 1,500 or 2,000 feet elevation, and probably at Manantoddy; but, as there can be no harm in trying it on a small scale at Nellumbore, I would suggest that, if a box of seedlings or seed packed in soil can be obtained, the Collector of Malabar should try it at all three places; the forest officer at Nellumbore can look after those to be planted on the Carcoor slopes, and the Wynaad forest officer those at Manantoddy.

4. If a box can be also sent to Travancore, I would suggest that they should be tried at Peermede and the western slopes at a lower elevation, and also to a small extent in the Trevandrum gardens.

Proceedings of the Board of Revenue, dated 20th August 1873, No. 1,615.

Read the following Proceedings of the Madras Government, dated 22nd July 1873, No. 766, Revenue Department :—

Abstract.—*Trees yielding Pará Rubber.*—Forwarding, for report, to the Board of Revenue, Inspector of Forests, and the Resident of Travancore, despatch from the Secretary of State regarding the cultivation of—in India.

The Board of Revenue have the honour to answer the reference contained in G. O., dated 22nd ultimo, No. 766.

2. The description given by Mr. Collins in his report of the habitat of the tree which produces the Pará Caoutchouc (*Hevea*) convinces the Board that it may be expected to flourish on the Western Coast of this Presidency, and its product being more valuable and purer than that of any other rubber-bearing tree, the Board would give this species the preference.

3. The climate and rain-fall of the Malabar Coast districts closely resemble those of the province of Pará; in the latter province, however, the region where the *Hevea* is abundant is an alluvial flat inundated part of the year, and the soil is "nowhere sandy but always either a stiff clay, alluvium, or vegetable mould." (Page 7, Report.)

4. Such conditions would not all be met with in Malabar: an experiment on a moderate scale would show whether the formation of plantations might be undertaken with the hope of success. In the still uncleared parts of the Sunderbunds it would seem that every condition under which the tree thrives in Pará would be present.

5. The *Ficus elastica* is found to be widely distributed throughout the forests of Assam: it already adds considerably to the Forest revenue. If it were introduced into the forests of the Western Ghauts there could be little doubt of its thriving, and like other kindred species it is especially easy to propagate.

6. Of the climbing shrubs the best appear to be the Madagascar *Vahea* and the Borneau *Urceola*: the former produces the most valuable caoutchouc, and the climate of the forests of the Western Ghauts would probably suit it well. The Inspector of Forests will have recorded his opinion on the advisability of cultivating any climbing plant in reserved forests; the Board believe such cultivation to be objectionable where valuable timber is sought to be produced.

7. If, however, plantations of the *Hevea* should be formed, it would seem that one of

the creeping producers of caoutchouc might be tried in those plantations, as the *Hevea* thrives in its native habitat in the most densely-tangled forest.

8. On a review of the whole facts brought to notice in Mr. Collins' report and Dr. Brandis' Memorandum, the Board incline to the belief that the proper locality in which to extend the cultivation of the *Ficus elastica* is its native province of Assam and the forests adjacent, while for the introduction of the exotic, *Hevea* and *Vahea*, they think suitable sites for plantations are likely to be found on the Western Ghauts, and especially in Travancore. The superior quality of the produce of these last-named species alone induce the Board to recommend their trial, for some uncertainty would attend their introduction; while the *Ficus elastica* flourishes in Ceylon (where a Member of the Board has seen fine and productive specimens in the Government Gardens near Kandy), and there can be little doubt that it would find the climate of the Western Ghauts and Travancore congenial.

From G. A. BALLARD, Esq., Resident in Travancore and Cochin, to the Hon. W. HUDLESTON, Chief Secretary to Government, Fort St. George, Ootacamund, dated Trevandrum, 11th October 1873, No. 89.

Adverting to G. O., dated 22nd July 1873, No. 766, I have the honour, after communicating with the Dewans of Travancore and Cochin, and, through them, with the respective Conservators of Forests, to observe that the climate and conditions of many portions of Travancore and Cochin appear very suitable for the growth of trees yielding the Caoutchouc of commerce. There are several indigenous trees and plants yielding milky juices from which Caoutchouc perhaps may be extracted, but experiment alone can determine whether the process would be remunerative or not.

2. The Conservator of Forests, Travancore, mentions especially the Pachotti* *(Isonandra acuminata)*,† a large tree growing in abundance at an elevation of from 2,000 to 3,000 or 4,000 feet, and submits some samples with a memorandum as to their preparation, which I forward‡ with this letter. There are other trees yielding somewhat similar juice in abundance that may be found useful.

* പാചൊററി

† *Vide* Drury's "Useful Plants of India," page 268.

‡ Will be sent by banghy.

3. The Conservator of Forests, Cochin, speaks of cuttings of the *Ficus elastica* as having been occasionally put down, but little attention was paid to their conservation. They seem, however, only to require the most ordinary protection from the depredations of cattle, &c., to flourish. One put down some fifteen years ago is said to be 2 feet 8 inches round the base of the trunk and 1 foot $4\frac{1}{2}$ inches and 1 foot 3 inches round the lower branches.

He also mentions the *Isonandra acuminata* above said as producing an inferior Gutta-percha, and alludes to others that probably would yield the product.

Called in Cochin, പാളി, Pali.

4. If any plants or seeds are supplied, I am sure experiments will be made with care and attention.

5. This is not the first time attention has been turned to this matter.

I enclose, for easy reference, copy of a report submitted by General Cullen in 1859 on the subject of Gutta-percha.

I have not any information regarding the young trees of the true Gutta-percha mentioned by him in paragraph 10 of his report, but will make inquiries regarding them.

Order thereon, 10th November 1873, No. 1,252.

Ordered that these reports be forwarded to the Secretary of State in reply to his despatch of the 30th of April last, No. 8, and with the request that some seeds of the different species of Hevea or Pará rubber trees may be supplied to this Government for experimental cultivation in Travancore and Malabar.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

INSPECTION OF TALUK TREASURIES.

Proceedings of the Madras Government, Revenue Department, 25th November 1873.

Read the following :—

Proceedings of the Board of Revenue, dated 30th July 1873, No. 1,447.

Read the following papers :—

From F. LUSHINGTON, Esq., Accountant-General, Madras, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Fort St. George, 24th April 1873, No. 627.

I HAVE the honour to forward, for the Board's inspection, the reports made by my Assistant, Mr. Kissun Sing, after his examination of the Kurnool, Cuddapah, and Bellary treasuries. The defects pointed out are not of a very important nature, and will doubtless be remedied by the treasury officers under the instructions of the Collectors.

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2. There are, however, two suggestions made by Mr. Kissun Sing, which I desire to bring to the notice of the Board: the first is that contained in the 11th paragraph of his report on the Cuddapah treasury, in which he recommends that the original taluk accounts should be sent up to the huzur periodically, with a view to their being compared with the copies forwarded to the treasury officer; and the second is that contained in the 21st paragraph of his report on the Bellary treasury, regarding the periodical examination, by the Collector or one of his Assistants, of the Government cash-balance in charge of the Branch Bank.

3. Both of the above suggestions appear to me to be deserving of consideration, and I hope that the Board will see fit to direct that they be carried out.

ENCLOSURE No. 1.—Report of the Assistant to the Accountant-General on the inspection of accounts of Bellary District.

ENCLOSURES Nos. 2 to 6.—Statements.

ENCLOSURE No. 7.—Report of the Assistant to the Accountant-General on the inspection of accounts of Cuddapah District.

ENCLOSURES Nos. 8 and 9.—Statements.

ENCLOSURE No. 10.—Report of the Assistant to the Accountant-General on the inspection of accounts of Kurnool District.

ENCLOSURES Nos. 11 to 13.—Statements.

Docket by the Accountant-General, dated 7th May 1873, forwarding report of his Assistant upon the examination of the Chingleput treasury accounts.

ENCLOSURES Nos. 1 to 3.—Statements.

With the papers above recorded, the Accountant General forwards the reports of his Assistant on his examination of the treasury and accounts of the Cuddapah, Bellary, Kurnool, and Chingleput Districts, during the current year. Copies of these reports will be forwarded to the Collectors for explanation.

2. The scale used in the Cuddapah treasury is reported to be unserviceable, and most of the bags holding coin are stated to be damaged. The Collector should see that good scales are at once provided, and that the unserviceable bags are replaced by new ones.

3. The Accountant-General will be informed that the Superintendent of Stamps having reported that there is no space available in his office for the redundant stock of stamps in Bellary, there is no alternative for the present but to keep the stock in the Collector's treasury.

Board's Proceedings, Miscellaneous No. 3,067, dated 21st May 1873.

Arrangements have, however, been made to get rid of the large stock indents from other districts having been ordered to be met from the stock in Bellary for some time to come.

4. The Board approve of both the suggestions made in paragraph 2 of the Accountant-General's letter above recorded, and Collectors will be requested to carry them out. The Board consider that it will be sufficient if the cash-balance in the Branch Banks is examined two or three times a-year.

Proceedings of the Board of Revenue, dated 23rd August 1873, No. 1,637.

The Board observe from the reports of the financial officers deputed by the Accountant-General from time to time for the examination of the district treasury offices that in the taluks mistakes in accounts are frequently committed, which the Treasury Deputy Collectors have no means of finding out, and which can be prevented only by periodical examinations of sub-treasuries by competent officers. The Board believe that Treasury Deputy Collectors are best fitted for conducting such examinations, and the inspection of accounts in the taluks is a portion of their legitimate duties as treasury officers of the districts.

2. In their order, dated 15th October 1866, No. 1,623, Judicial Department, the Government, in passing orders upon a request made by the Registrar-General of Assurances (now Inspector-General of Registration) to the effect that Deputy Collectors in charge of treasuries should be made to inspect Sub-Registrars' offices from time to time, took into consideration the suggestions of the Board and the Accountant-General, that these officers were overworked and could not be spared for extra work without prejudice to their duties as treasury officers; one of the grounds upon which the opinion that they were overworked was based being that most of them had magisterial work to perform. This argument cannot now stand, as they have since been relieved of magisterial work under G. O., dated 9th December 1867, No. 2,940

3. The Board, therefore, consider that it would be well to address Government again on the question, and to request that Collectors may be authorized to depute their treasury officers for inspection of sub-treasuries, and to make temporary arrangements for the charge

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of the huzur treasury, which can be easily done, as an Assistant will be available for the duty. Before doing so, however, the Board resolve to request the Accountant-General to favour them with his opinion on the point.

Proceedings of the Board of Revenue, dated 2nd October 1873, No. 2,002.

Read again Board's Proceedings, dated 30th July 1873, No. 1,447, and 23rd August 1873, No. 1,637.

Read also the following letter from the Accountant-General, Madras, to H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated Fort St. George, 27th August 1873, No. 4,710.

The undersigned has the honour to point out that in Proceedings, No. 1,447, dated 30th July 1873, which the Board appear to have lost sight of, they have, on the recommendation of Mr. Lushington, approved of the suggestion of Mr. D. Kissun Sing, that the taluk accounts should be sent for periodically and inspected by the treasury officers, with a view to the detection of mistakes which occur in them. This suggestion, as it tends to save expense to Government and prevents the necessity of making temporary arrangements for the charge of the huzur treasuries, while at the same time it answers all the purposes of an inspection, commends itself to this department.

(Signed) R. W. LODWICK,
In charge, Accountant-Genl.'s Office.

In their Proceedings, dated 23rd August 1873, No. 1,637, the Board requested the Accountant-General to favour them with his opinion as to the advisability of Collectors being authorized to depute their treasury officers for periodical examination of subordinate treasuries, making temporary arrangements for the charge of the huzur treasury. The paper above recorded is that officer's reply.

2. The Board observe that they did not lose sight of their Proceedings, dated 30th July 1873, No. 1,447, as has been supposed by the Accountant-General. Finding that the measures therein sanctioned insufficient to secure supervision, which would prevent errors such as his Assistants from time to time point out, the Board have come to the conclusion that it is most desirable that the district treasury officer should personally inspect the accounts of the sub-treasuries.

3. The reports of the financial officers who examine the district treasuries and their accounts show that there are many defects in the working of the subordinate treasuries, which can best be detected and remedied by *personal* examination of the system pursued and by repeated instructions on the spot.

4. The Board consider that the advantages of a personal examination and the opportunities it presents to the district treasury officer for giving detailed instructions and thereby preventing the recurrence of errors are not to be obtained by a mere occasional examination of the original accounts at the head-quarters of the district.

5. The only objections put forward by the Accountant-General to the Board's proposal are—

(1.) The additional expense to Government in the shape of travelling allowance; and,

(2.) The necessity of making temporary arrangements for the charge of the huzur treasury. The advantages resulting from such personal inspections are so great that the petty additional charge to the State in the shape of travelling allowance to the Treasury Deputy Collector is not, in the opinion of the Board, of much weight against their proposal.

6. The Board, therefore, resolve to submit the whole correspondence for the orders of Government, with a strong recommendation that the proposal may be adopted at least as a tentative measure.

7. The Board think that each taluk treasury should be visited by the Deputy Collector once a year, and believe that this can be easily managed without inconvenience if the visits are to be so arranged as to be made when the Collector himself is present at head-quarters.

Order thereon, 25th November 1873, No. 1,295.

The Governor in Council concurs with the Board of Revenue in deeming it to be very desirable that Deputy Collectors in charge of treasuries should be employed by their Collectors in making occasional personal inspections of the subordinate taluk treasuries. The Board of Revenue will accordingly be good enough to issue instructions to all Collectors in accordance with the views expressed in their proceedings. It will be hardly necessary, however, that every taluk treasury should be inspected every year; but this is a matter which must be left to the discretion of the Collector. The inspections should always be made without notice.

(True Extract.)
(Signed) D. F. CARMICHAEL,
Secretary to Government.

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Discovery of Ancient Coins in Tinnevelly District.

Proceedings of the Madras Government, Revenue Department, 26th November 1873.

Read the following Proceedings of the Board of Revenue, dated 10th November 1873, No. 2,279 :—

Read the following letter from R. K. PUCKLE, Esq., Collector of Tinnevelly, to H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated Nannagaram, 25th October 1873, No. 573 :—

On the 25th December last a gang of labourers while engaged on cutting a channel connected with the Strivaiguntam Anicut Project came upon a large copper pot filled with gold ingots and coins. The pot was of large size, capable of holding six Madras measures of grain, and from the marks inside it must have been filled with treasure.

2. The probable value of the treasure is estimated at a lakh of Rupees.

3. The labourers divided the spoil and made off with it, but the matter soon became public and the Tahsildar succeeded in recovering Rupees 8,000 worth of coin and ingots. This was mostly recovered from a little girl who ran away from her house with a chatty which fell, broke, and scattered the gold in front of the officials who were coming to search.

4. The rest was quickly buried or melted down, and all traces of it were lost. I am told, however, that the share of one of the labourers, which he deposited with a kavalgar, who afterwards denied having received it, was worth 900 Rupees, so, as there were twenty labourers besides headmen to share the spoil, the find must have been very extensive.

5. On hearing of the discovery I notified the course to be pursued under the Act, but nothing was given up. The treasure recovered was deposited with the Civil Court, and the case was inquired into after due notification. The Court has decided, as per proceedings enclosed, that the terms of the Act were sufficiently observed and that the treasure should be restored to the finders.

6. This treasure was buried in the sandy tract between the Coast and the large town of Alwartirunagari, some fifteen miles from the mouth of the Tambrapurni. It was found near an old avenue leading inland from what was once the city of Kayal, and this treasure was probably buried some hundreds of years ago.

7. The coins are principally Arabic, but one is European. This, as far as can be ascertained, is a coin of Joanna of Castile, A. D. 1236. Some of the Arabic coins are still older; one* bears the impress of the Mahomedan year 71, and another† bears the name of Sultan Salaudeen, who may be the Saladin of history.

* Without name.
† Without date.

8. I enclose a sketch of the obverse and reverse of these coins, and, if the Board think fit, will buy duplicate specimens for the Madras Museum. I have requested the finder's vakeel to arrange for the purchase.

Enclosure No. 1.—Copy of Proceedings of Civil Court.

Enclosure No. 2.—Sketch of Coins.

Submitted for the information of Government, and communicated to the Superintendent of the Government Museum, who will be requested to see if it is desirable to secure any of the coins for the Museum.

Order thereon, 26th November 1873, No. 1,302.

The Government await the report of the Superintendent of the Museum.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

Cultivation of Jute in Madras.

Proceedings of the Madras Government, Revenue Department, 28th November 1873.

Read the following letter from Colonel R. BENSON, F.L.S., Honorary Secretary, Agri-Horticultural Society, Madras, to D. F. CARMICHAEL, Esq., Secretary to Government, Revenue Department, Fort St. George, dated Madras, 7th November 1873, No. 553 :—

With reference to the proceedings of Government, Revenue Department, No. 869, dated 19th August 1873, I have the honour, by desire of the Committee, to inform you that the *Corchorus capsularis* and *C. olitorius*, the plants which produce the Jute or Indian hemp of commerce, are not cultivated in the more southern parts of the Madras Presidency; at least so far as their present information extends.

2. In the northern part, however, extending from Guntoor, in the Kistna District, to Ganjam, including Cocanada, Calingapatam, Chittavalsah or Bimlipatam and Gopaulpore, the plant is cultivated to some extent and manufactured by native weavers into ropes and gunny cloth for local use.

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3. The chief manufacturers are Messrs. Arbuthnot and Co, at Chittavalsah, for the purpose of packing sugar, gram, and oil-seeds, &c., and in this form only does the manufactured articles appear to be exported.

4. The export trade in raw material is of greater importance, and has for the last six years been steadily increasing as the following figures show :—

Bales of Jute of about 300 *lbs. each exported.*

	Bales.
In 1867	346
„ 1868	431
„ 1869	3,246
„ 1870	3,876
„ 1871	3,159
„ 1872	3,559
Total...	14,617*

5. The Committee are unable to state from which of the two plants *(Corchorus capsularis* and *C. olitorius)* the fibre is obtained, as they have heretofore failed to procure specimen plants for identification.

6. A sample of the fibre is herewith sent, the selling price of which is about 28 Rupees per candy.

7. The Committee desire me to add that further inquiries on so important and interesting a subject will be made and the result reported, and that they have addressed a letter to the Secretary, Agri-Horticultural Society of Calcutta, requesting seed of both species of the above plants be furnished with a view to experiments being made in the culture of the plants in the Society's Gardens.

Order thereon, 28th November 1873, No. 1,317.

Ordered that the foregoing letter, together with the sample of fibre therewith received, be forwarded to the Government of Bengal.

2. Copy of the letter will be forwarded also to the Board of Revenue, with an intimation that the Government await the Board's report on the subject called for in G. Os. 19th August and 9th October 1873, Nos. 869 and 1,080.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

Head Quarters of Collector of Kistna District.

Proceedings of the Madras Government, Revenue Department, 28*th November* 1873.

Read the following Proceedings of the Board of Revenue, dated 11th October 1873, No. 2,079 :—

* About 1,957 tons.

Read the following letter from G. D. LEMAN, Esq., Collector of the Kistna District, to H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated Guntoor, 10th September 1873, No. 1,375 :—

In reply to G. O., No. 389, dated 4th April 1873, Revenue Department, I have the honour to inform the Government that the District Engineer has sent me an approximate estimate (enclosed) for a cutcherry at Guntoor. It amounts to Rupees 58,200.

2. I remember that there was some question since I joined the district, whether the telegraph line between Masulipatam and Bezwara was to be repaired or not. I have not official intimation how it was settled; but, should the line be given up, it will, no doubt, occur to Government that I should have no Telegraph office within 48 miles of my cutcherry if it remains at Bander.

3. The buildings at Masulipatam will require an expenditure of about Rupees 6,000 to put them in fit repair for the Sub-Collector's office.

4. A new Post Office will be necessary at Guntoor, as the old one must be pulled down to make room for the cutcherry. This could be most conveniently attached to the cutcherry building, and the extra expense would be small; but, at any rate, if a separate building be provided, its cost would not exceed Rupees 5,000.

5. It may also be necessary for me to ask Government for a grant of land to be given to the cutcherry servants for building purposes, as the whole of the site of the town is now occupied. This would not, however, cost any large sum of money.

Enclosure No. 1.—Estimate.

This letter and estimate will be submitted to Government, with reference to G. O., dated 4th April 1873, No. 389, Revenue Department.

2. The Acting Collector now submits an approximate estimate for converting the present Sub-Collector's cutcherry at Guntoor into an office for the Collector, which amounts to Rupees 58,200; and to this must be added Rupees 5,000 for a Post Office, and about Rupees 6,000 for adapting the present cutcherry at Masulipatam for use by the Sub-Collector. The estimate for the additions to this building, already submitted, was Rupees 34,180; so that the whole cost of the transfer may be stated at Rupees 35,000, or, allowing for other expenses, at most Rupees 40,000.

3. The considerations in favour of the transfer of head-quarters to Guntoor may be summed up as follows :—The position of Masulipatam is not central; it is believed to be of

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less importance as a town than it was a few years since, and as a shipping port is partially deserted for Cocanada; it is not the station of the District Court, and will probably soon cease to be that of the District Engineer; the jail is said to be ruinous and to be about to be abandoned; and owing to its distance from the south-western taluks in the charge of the Deputy Collector, that officer is practically uncontrolled. On the other hand, it has still a considerable trade and would be the natural terminus on the coast of a railway from Hyderabad; its climate is perhaps better than that of Guntoor; it has better water-supply, and there is ample accommodation for Europeans and for native servants of the cutcherry.

4. All parts of the district are, however, readily accessible from Guntoor; it has, the Board believe, a larger European community than Masulipatam, and is the centre of the cotton-trade of the district, which is now important; and it is the site of the District Court. The strongest argument in favour of it, as the site of head-quarters, is, in the Board's opinion, its position with reference to the Deputy Collector's division. Against it are the want of accommodation for Europeans and for natives in the crowded town, and especially the deficiency in the water supply. Water is very scarce at times; when the tanks are empty most of the wells run dry, even those, the Board believe, which are sunk to 70 feet in depth. The difference of level prevents the Kistna water from being brought near the town. The hot season is severe and protracted, but some persons prefer the climate to that of Masulipatam.

5. There is no third choice. The expense of establishing head-quarters at any other place would be much greater than is involved in a mere exchange between the Collector and Sub-Collector's present stations. There is no space for building at Bezwara, and the black cotton-soil there is unfavourable. Bapatla has good climate and water supply, but is not central.

6. The Board are unable to make any strong recommendation in favour of the proposed transfer, but, with the above remarks, leave the question for the decision of Government. Two extracts from a Native diglott newspaper, published at Masulipatam, which have been sent to the Board, are also submitted to Government.

Order thereon, 28th November 1873, No. 1,314.

The Governor in Council is of opinion that no change is called for. The deficiency of water at Guntoor and its greater insalubrity form two very serious objections.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

Appointment of an Assistant to the Superintendent, Sydapet Farm.

Proceedings of the Madras Government, Revenue Department, 28th November 1873.

Read the following despatch from the Right Hon'ble the Secretary of State for India:—

India Office, London,
9th October 1873.

My Lord,—I have received and considered in Council your Excellency's despatch, dated July 25th, No. 20, 1873, forwarding a report on the Government Farm at Sydapet for the year 1871-72, which shows very satisfactory and interesting results.

2. I have also to inform you that, in consequence of a recommendation from the Government of India, I have approved in Council of the appointment of an Assistant to Mr. Robertson, and that I have caused steps to be taken for obtaining the services of a competent person.

I have, &c.,

ARGYLL.

His Excellency the Right Honourable
The Governor in Council, Fort St. George.

Order thereon, 28th November 1873, No. 1,320.

Communicated to the Board of Revenue.

(True Extract)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

Chemical Investigation of the Native Febrifuge Atis.

Proceedings of the Madras Government, Revenue Department, 8th December 1873.

Read the following letter from J. BROUGHTON, Esq., B.S.L., F.C.S., Government Quinologist, to the Hon. R. A. DALYELL, Acting Secretary to Government, Revenue Department, dated Ootacamund, 25th October 1873:—

In accordance with G. O., No. 714, dated 9th July 1873, Revenue Department, I have the honour to communicate the results of my investigation of the tubers of *Aconitum heterophyllum*, of which the Hindoostani name is "Atis."

2. The examination of this native medicine was undertaken by the advice of a Bengal medical officer, who informed me that of all the febrifuge medicines employed in India, except Chinchona, this was the most effective. It has a place in the Indian Pharmacopœia, and at page 434 of that work high therapeutic value is given to it; the names of Drs. Hem-

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ing, Balfour, Dymock, Moore, Forbes, Watson, and others being cited. Though the plant grows on the western Himalaya, it can be purchased in nearly all the bazaars of South India, though its use is, of course, more general in the northern Presidencies.*

* In a white febrifuge medicine employed by the Karens in British Burmah, I have detected "Atisine;" therefore, Atis is a component of the drug.

3. The appearance of the tubers is described at page 4 of the Indian Pharmacopœia. They are farinaceous, have an intensely bitter taste, and are not poisonous, being, as therein stated, free from the poisonous alkaloid aconitine.

4. After much labour, I succeeded in isolating the bitter febrifuge alkaloid, which, from its composition and properties, I find to be a new substance to which I propose to give the name "Atisine."

5. The method which I have found the most convenient for obtaining this alkaloid is as follows :—

6. The roughly powdered tubers are submitted to two exhaustions with boiling alcohol, and the resulting tincture is separated by filtration through cloth. The whole of the alcohol is then separated by distillation, and the thick extract is mixed with an equal bulk of cold water, made alkaline with caustic soda agitated with chloroform and allowed to settle. The whole of the atisine is then in solution in the chloroform, which is separated, the chloroform distilled off, and the atisine dissolved in dilute sulphuric acid and decolourized by animal charcoal. From this solution atisine nearly pure is precipitated as an extremely bulky white hydrate on the addition of caustic potash. In order to obtain it pure, it has to be re-dissolved in ether, again re-distilled and again dissolved in dilute hydrochloric acid precipitated by dilute ammonia and dried. The separation of atisine is neither difficult nor laborious.

7. Atisine is soluble to a considerable extent in water, to which it imparts a most intensely bitter taste. It forms a very bulky hydrate from which the water separates at a steam heat. It becomes anhydrous at 100° C. It commences to agglutine at 76° C., and is perfectly fused at 85°. After fusion, it exactly resembles quinine in a similar state. Its alkaline properties are well marked, as it reddens moistened turmeric paper, and completely neutralizes all acids. It is soluble in carbonic disulphide and benzol. I have not succeeded in obtaining the free alkaloid in a crystalline form.

8. Its composition was determined by an analysis of its platinum double salt, which is readily precipitated from the hydrochloric acid solution of the alkaloid by the addition of platinum tetrachloride. Without entering into details, I find the formula of atisine is $C_{46} H_{74} N_2 O_5$, the truth of which I was able to corroborate by a carefully conducted volumetric determination of the amount of hydrochloric acid required for neutralization. Atisine appears to have no rotatory effect on a beam of plane polarized light. Like quinine atisine is diacid. Solutions of its salts with oxygen acids are fluorescent.

9. I have obtained a crystalline sulphate of atisine, but with much difficulty in prismatic needles. The hydrochlorate is readily obtained by pouring dilute acid over a mass of the free base in the cold; crystalline crusts readily forming, which resemble quinidine hydrochlorate on examination. I have failed to obtain any other crystalline salts, though I have prepared the acetate, nitrate, and oxalated as amorphous masses.

10. A solution of an atisine salt is precipitated by tannin, mercuric chloride, potassic chromate, and ferrocyanide; also by phosphomolybodic acid and biniodide. Atisine quietly dissolves in strong sulphuric and nitric acids without any decomposition. It is well and clearly defined alkaloid, quite new to chemists, and will very probably be of future use in medicine.

11. A further description of the chemical properties of atisine would be out of place in the present communication. I propose communicating a fuller description to the Chemical Society.

12. As the amount of atisine actually present in the tubers is but small, it would appear that this alkaloid would require to be medicinally used in very small doses. I have the honour to forward a specimen of "Atis," and one of Atisine hydrochlorate, the salt of the base most fit for therapeutical use. I would suggest that these specimens, if not otherwise required, should be presented to the Central Museum at Madras.

Order thereon, 8th December 1873, No. 1,367.

Communicated to the Surgeons-General, British and Indian Medical Departments, to whom a specimen of Atisine hydrochlorate should also be sent by the Government Quinologist.

2. The specimen forwarded will be sent to the Museum as suggested.

3. Mr. Broughton is thanked for his report, copy of which will be forwarded to the Secretary of State and Government of India.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

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MISCELLANEOUS.

THE TUSSUR SILKWORM.

[BY CAPTAIN G. COUSSMAKER, BOMBAY STAFF CORPS.]

THE Tussur silkworm is found, I believe, in nearly all the forests of India, and in some districts, especially in Central India, it is more or less cultivated, and the cocoons are collected by many tribes and castes. In the hope that my own Presidency of Bombay may be induced to take her share in this branch of industry, I have devoted some of my leisure hours towards watching the habits of this insect, and endeavouring to collect all possible information relative to its cultivation. I am convinced that there is yet much to learn concerning this subject, but I think that what I have learnt may be of some use to intending sericulturists, I have therefore resolved to put in print the conclusions that I have drawn, trusting that more attempts may be made to cultivate this silkworm. I myself have found it in the whole line of jungle country between Tanna and Ankola, a distance of 330 miles, and in three stations bordering this tract, viz., in Satara, Kolhapoor, and Dharwar, have I successfully reared it. At the risk of being tedious, I propose to minutely describe the insect in its various stages, so that it may always be recognized when met with, and to point out what I have learnt about the modes of cultivating it. The best method of reeling off the silk, of weaving it, and of bleaching it, constitute another phase of this industry, which requires much more attention than I have yet been able to afford, but I trust to eventually obtain full information about it. In the meantime, the cocoons have a market value, and my argument is, that Bombay ought to cultivate this hardy indigenous silkworm which feeds on common jungle trees. These are in the Southern Mahratta country:—

	Native Name.
Terminalia or Pentaptera } Tomentosa...	Aieen or Mutty, or Saj.
Zizyphus Jujuba	Ber or Bor.
Ficus Benjamina	Nândrook or Pimproon.
Ficus ?	Baseree or Paeree.
Carissa	Karinda.
Guidia	Ramèta.

In "Silk in India," the work on Indian sericulture, compiled by Mr. J. Geoghegan, Under-Secretary in the Department of Revenue, Agriculture, and Commerce, the following are also mentioned, but I do not know whether they are found in the tract of jungle I am acquainted with:—Terminalia Catappa; Terminalia Alata, the Asun; Bombax Heptaphyllum; Shorea Robusta, the Sàl; Carea Sphærica; Lagerstramia Parviflora, the Lendega; Conocarpus Latifolia, the Dhowra; Pentaptera Arjuna, the Kowha; Syzygium Jambolanum. Tectona Grandis, the teak tree, is also mentioned, but I have never seen the worm on this tree, which is very common.

THE MOTH.

Antheræa Paphia, Linn., is a large and handsome moth, the female of which is a good deal larger than the male, the expanse of her wings being from $5\frac{1}{2}$ in. to $6\frac{1}{3}$ in., whereas his are only from 5 in. to $5\frac{1}{2}$ in. In the depth of the wings the difference is even greater, many of the females having the extreme depth of the two wings together as much as $3\frac{3}{8}$ in., but I have rarely found those of the males deeper than $2\frac{3}{8}$ in. The markings of the two moths are very similar; as a general rule, the body is of a pale cinnamon shade, and on the anterior edge of the upper wing there is an ashy stripe, or border, which is about $\frac{1}{4}$ in. deep, close to the body, and gradually narrows away to nothing at the tip; a broad ashy stripe just behind the head crosses the body, connecting these wingmarkings. On the exterior edge of both upper and lower wing there is a broad pinkish-brown border, from $\frac{1}{3}$ in. to $\frac{1}{2}$ in. deep in the broadest place, that is, where the upper wing overlaps the lower. In the lower wing this border does not vary in depth; but in the upper it dwindles away to nothing at the tip; internally it is edged with first a stripe of white, and then one of deep cinnamon; parallel to these are two or three faint bars, more distinct on the under sides of the wings, of a deeper shade than the general colour of the wings, which colour varies very much in the females, some being of a cinnamon hue shading into orange or white at the tip of the upper wing; others are of a pale cinnamon, fawn, or beautiful soft reddish-yellow; the ground colour of both wings is the same. The males vary very little, being mostly of a yellowish-red or cinnamon; a few I have seen of a fawn colour, but none yellow; and I have had upwards of 500 specimens of both sexes in my possession. In each wing there is a clear, perfectly transparent spot with a line like a crack across it. The females have these spots much larger than the males have. On the upper wing of the female they are about $\frac{1}{3}$ in. in diameter, and on the lower wing about $\frac{1}{5}$ in. On those of the males they are about $\frac{1}{4}$ in. and $\frac{1}{10}$ in. respectively, sometimes even smaller. These spots are circular on the upper, and oval on the lower wings. Round the transparent part of the spot there is a ring of brownish-pink, with first a thin line of white, bordering it on the interior, that is, side nearest the body, and on the exterior side there is a broken line of yellow which is faint on the upper wing but very distinct on the lower, much more so in the male than the female moth. Two-thirds of the whole spot are encircled exteriorly with a fine black line,

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and the remaining one-third, that is, the interior portion, with a fine white line. The antennæ of the female are very narrow, about $\frac{2}{3}$ in. long and $\frac{1}{16}$ in. broad; those of the male are about $\frac{1}{2}$ in. long and as much as $\frac{1}{3}$ in. broad. On the shoulder of the moth, near the joint of the wing, there is a dark-brown, hard, sharp-pointed short spine, which is most likely of assistance to the moth when it is struggling to clear itself of the cocoon. Captain Hutton says that this spine is characteristic of the Antheræa and Actias species. The moth issues from the cocoon late in the afternoon or in the evening. A moist spot can be perceived on the cocoon, generally at the top near the pedicle, about two hours before the moth escapes, and this spot gets moister and moister until eventually the fibres separate, and the moth is enabled to enlarge the hole sufficiently to allow of its egress. When it has got out it clings to the outside of the cocoon, or climbs up to the branch of the tree to which the cocoon is attached, and remains quite motionless while its wings are growing and stiffening. The male very often flies away the same night, but the female rarely does; the next night, however, she is quite alert, and commences to lay her eggs, the majority of which are laid within forty-eight hours; but she goes on laying a few here and a few there during the rest of her existence, which is often protracted for eleven days, during which time she lays about 300 eggs. The male rarely lives more than nine days.

The egg is oval in shape, slightly flattened above and below; it is about $\frac{2}{15}$ in. long, $\frac{1}{10}$ in. across, and $\frac{1}{15}$ in. deep. It is of a brownish white, or dirty cream colour, with generally two narrow lines of brown on the sides encircling it. When fresh laid, about 3,500 weigh 1 oz. The eggs hatch out in thirteen days, though I have known them hatch in ten days in thundery weather.

The caterpillar when first hatched out weighs $\frac{1}{6}$ gr., and is about $\frac{1}{4}$ in. long. In colour it is blackish-brown, with a shining black head. As the caterpillar increases in size the segments show themselves to be yellow, with four or six small black spots placed at regular distances transversely in the middle portion of the segments. After the first moulting the head becomes of blood-red colour, the yellow of the body acquires a greenish tint, and the black spots seem smaller in proportion. After each moult the body colour becomes greener, and is at the last stage transparently green; the red of the head gets a brownish tinge. At each moult the spots become of a less decided black, and at the third moult the lower rows of spots become of a beautiful blue, while the central rows are of a golden colour shot with red; at the same time, close to the breathing holes there appear some few spots, like small oval scales of silver; these are most irregular; some caterpillars have none at all, some have them on one side only, sometimes there is only one scale, sometimes as many as five or six, in fact there is no rule; very often some of them disappear at the two succeeding moults. The caterpillar is, when first hatched out, somewhat hairy, but it is soon evident that it is only apparently so, there being only a few short black hairs growing out of the spots and the holders, or membranaceous feet, in the middle part of the body; after the fifth moult all these black hairs disappear, and several white hairs scattered singly over the body are visible. The claspers, or hindermost pair of feet, have a triangular chocolate-coloured patch on each side; the apex of this patch or mark, points forward, and from it there extends up two-thirds of the entire length of the caterpillar a greenish-yellow stripe, which gets narrower and less distinct at the extremity. When looking at a caterpillar hanging on to a twig overhead, I have often been struck with its resemblance to a leaf, of which this mark and stripe appear to be the footstalk and costa, and the arched back of the caterpillar the outer edge of the leaf. It is interesting to notice that it only resembles the under side of the leaf. The caterpillars moult five times, at intervals of from five to eight days. This discrepancy occurs, I expect, from some irregularity in the feeding of the worms, or from some of them. feeding upon more nutritious leaves than others. They are particularly capricious in the last stage. I have known some begin to spin on the forty-fourth day of their existence, and others not until the fifty-fifth. When full grown, a fine specimen is at least 7 in. long and 1 in diameter. I have weighed one, of these dimensions when forty-five days old, and found it to be 371 grs.

The chrysalis, which is reddish-brown, varies in depth of colouring from the light brown of a filbert to almost black. The male is about 1 in. long by $\frac{1}{2}$ in. in diameter, and the female about $1\frac{1}{3}$ in. by $\frac{2}{3}$ in. On the shoulder of the chrysalis there is a knob corresponding to the spine on the shoulder of the moth. I have been told that in some of the hilly districts near Satara the chrysalis is often given as medicine to small children in cases of colic, but with what result my informant could not tell me.

The cocoons are oval in shape, silvery-white, or yellow, in colour irregularly reticulated with a coarse, reddish silk. In size they vary very much, some being as large as 2 in. long and $1\frac{1}{6}$ in. in diameter, and others, again, as small as $1\frac{1}{6}$ in. by $\frac{5}{6}$ in.; outside they are somewhat rough, but inside they are hard, smooth, and glossy. According to Dr. Shortt of Madras, the average weight of the chrysalis is 130 grs.; of the cocoon containing the chrys-

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alis, 150 grs.; of the empty cocoon, 20 grs., and of the silk when reeled off, 12 grs. It is very interesting to watch the caterpillar forming the cocoon, and a knowledge of the *modus operandi* is essential to the person who reels off the silk, in order to enable him to obtain the greatest length possible at one time. The caterpillar has two kinds of silk; that which it first spins is reddish, and of this the pedicle and outside network, or cradle of the cocoon, is made. This silk consists of several threads of different lengths, but the other kind is generally unbroken from beginning to end. It is of a very delicate shade of fawn, nearly white, beautifully glossy and elastic, and being spun from a double spinnaret, consists of two fibres, which for the most part adhere together when the silk is being reeled off. The different lengths of the threads of the two kinds of silk is to be accounted for as follows: the caterpillar, when about to form its cocoon, brings two or three leaves together, attaching them with short lengths of the red silk in a few places so as to make a rough kind of house, inside of which it attaches a few threads here and there, so as to make a cradle of coarse network; then it begins to make the pedicle, or cable, which shall support the cocoon when the leaves shrivel up and fall away from the twig. In making the pedicle, the caterpillar, firmly grasping the twig with its membranaceous feet, sways its body backwards and forwards as far round the twig as it can reach, and back again, attaching its silk thread over thread, and in this way soon completes a strong dark-red cord along the twig, and in a ring round it. Sometimes while making this, a misgiving crosses its mind that the cradle is not strong enough, or is losing its shape, so it hurries down—if such an expression can be applied to a caterpillar of its size and make—turn itself round and round in the cradle, putting a thread here and there as may be required, and arching its body, with a muscular effort gives the proper oval shape to it. This way of working fully accounts for the many separate lengths of red silk which are found when the pedicle and cradle are thoroughly dissolved. The cradle once made and attached to the pedicle by many of the threads which have from time to time been carried down into the net-work, the caterpillar begins to make the cocoon proper of the fawn-coloured silk. This silk is spun off by the same motion of swaying from side to side, but with a much more contracted motion, and thus in layers of loops overlapping one another is the wall of the cocoon built up. There are four or six lines of loops in the circumference of the cocoon, and as they all meet at the top and bottom, where they are simply stuck together with a peculiar kind of gum, the mere dissolving of this causes them to fly apart, and thereby makes an opening for the moth to get out. After the caterpillar has spun a layer of silk thick enough to conceal itself, it discharges some kind of gum or cement, thick and white like plaster of Paris, and then, with the muscular action alluded to before, it causes this gum to thoroughly permeate the whole cocoon and solidify the wall. In this manner it goes on, spinning layer after layer of loops, and cementing them all together until the whole of its silk is exhausted, and the wall of the cocoon becomes so hard that it requires a sharp penknife to cut through it. The chrysalis now is safe from birds, but squirrels, rats, and a few insects do damage to gnaw their way into the cocoon. The amount of silk contained in one of these cocoons may be roughly estimated as over half a mile of the fawn-coloured kind; for I once succeeded in getting 16 grs. realed of one single cocoon in an unbroken double thread. This is more than four times the weight of silk procurable from the common silkworm, which, according to Count Dandolo, is 384/100 grs., and is in length half a mile. I have repeatedly tested single fibres of Tussur silk, and find that it is about three times as strong as the common silk, and also that it is about three times as thick, for the ordinary weaving thread contains three times more fibres of common silk than it does of Tussur silk. If, therefore, the weight of the Tussur silk in the cocoon be taken as only three times as much as that of the ordinary silk, the length of fibre in both cocoons will, I imagine, prove to be about the same. The ring at the end of the pedicle which has been spun round the twig is a most necessary provision of nature, for it often happens that either the caterpillar has been unable to attach its cocoon to a leaf, or that, during the long time the cocoon remains unburst in the tree, the leaf or leaves to which the cocoon was at first attached become separated from it, and then the cocoon hangs suspended from the twig like a berry. As a rule, there are certainly two crops in the year; the moths of the first batch come out in about four or six weeks after the first lot of worms (which come out at the commencement of the rains) have spun; those of the second batch remain quiescent until the rains begin again, that is to say, until May. As this entails the chrysalis remaining in the cocoon as long as eight months, exposed to the hottest sun and occasional thunderstorms, the cocoon had need to be made of a hard, impenetrable meterial. So indestructible is it, that Bheels and other tribes which live in the jungles, use the cocoon as an extinguisher to the bamboo tube in which they keep the "Falita," or cotton-rope tinder, used by them for lighting their tobacco and the slow matches of their matchlocks. The cocoon is also cut into a long spiral band, and used for binding the barrel of the matchlock

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to the stock, being, as the natives say, unaffected either by water or fire.

If the eggs of the Tussur moth were exposed to a very low temperature directly they were laid, I presume that they could be kept as long as those of the Bombyx Mori, but the natural resting time of the insect is when it is in the cocoon, and it is so hardy that no amount of travelling seems to kill the chrysalis. I have had them sent to me from different parts of India, packed anyhow, and I have also both sent and brought them to England without taking any precautions in packing them, yet the majority of the moths have come out. I therefore recommend that for procuring a supply of these silkworms, reliance should be placed upon keeping up a stock of seed cocoons, not of eggs. My own experience points to the following four methods of obtaining caterpillars and cocoons :—

(1.) During the monsoon, that is, from June to October, when the caterpillars were large, and committed extensive ravage on the trees, as I was passing by the trees on which I might expect to find the caterpillars, I used to look whether there were many denuded twigs, or whether there were any droppings on the ground, two things which would strike the eye at once; for when the caterpillar has got over the two first moultings it wanders very little, but clinging on to the under sides of the twigs, or leaves, devours leaf after leaf and perfectly strips the twigs, and as its dung is very large, and owing to the insect's stationary habits lies a great deal in one place, the traces of its whereabouts are very visible.

(2.) In the cold and hot weather, when I was in the stations and jungles, and came across the right kind of trees at the time when they had lost their leaves, I found several cocoons hanging from the twigs, and pointing this out to the native revenue officials of the districts, in a short time through their influence I obtained a few hundred cocoons.

(3.) As soon as the moths issued from the cocoons, I confined them by pairs in baskets or boxes, which I kept quiet and in the dark. From the eggs laid by these moths I reared many caterpillars.

(4.) When I had female moths and no males to pair them with, I took them at sunset and tied them on to the branches of a Terminalia Tomentosa, a tree which was in blossom at the time, and on which the cocoons are often found; wild males, or others which I had liberated there, came and paired with them, and from their eggs I also reared caterpillars.

The first and second methods require no more detail; but much watchfulness is requisite to ensure success in pairing and rearing from the egg. From the experiments which I have tried for some years, I have deduced the following rules :—The cocoons should be looked at at sunset, and at intervals for a few hours after, and those on which the moist spot, alluded to by me in the description of the moth, appears, put on one side. After a short time the head of the moth will appear, when, from the broad antennæ the male, and from the narrow antennæ the female, moth may at once be recognized. I may also mention here that, as a rule, the cocoon containing a male moth is smaller than that containing the female; but this cannot be taken as a certain guide in distinguishing the probable sex, for I have observed many exceptions to it. Having noted the genders of the moths, they should be put in pairs under an inverted basket about 12 in. in diameter and 6 in. deep, with as little delay as possible, so that they may not know what liberty is and become wild. It is best, directly the antennæ appear outside the orifice of the cocoons, to take a pair of cocoons and to fasten them up inside the basket; then invert this, and place it in a quiet, dark place. In a short time the moths will come out, and either clinging on to their cocoons, or climbing up to the top of the basket, will remain quiet still until their wings are full grown and stiff. Sometimes they will pair that same night, but, as a general rule, not till the next. In all cases they should be looked to at daybreak, and if they have paired, the male should be taken away at sunset, and the female put into a small box to lay her eggs in in quiet. After she has died, all the eggs should be collected into another smaller shallow box, or lid of a box, and the date on which the moth began to lay attached to it, so that the day on which the caterpillars may be looked for (*i.e.*, from eleven to thirteen days after the laying of the first egg) will not be overlooked. Whether the moths pair or not the first night, they remain quiet all day till about sunset, so the looking at them at daylight will not disturb them. If they have not paired, the basket should be re-placed, and not looked at again until the next morning, when it will most likely be found that they have paired; if this is not the case, the females should be taken at sunset and tied up with a bit of worsted to a branch of some tree (it would be preferable that this be one of the trees on which the caterpillar feeds, and if in flower so much the better, for it is most probable that the wild moths will resort to a tree of this description), and the male liberated there. It sometimes happens that moths which will not pair in captivity will do so when the male is at liberty. The female should always be fettered, the worsted, or soft thread, being fastened loosely round the body between the wings.

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The tree should be visited very early the next morning, and the female brought back to the house whether she has paired or not, for fear of the birds, &c., finding her out. Female moths should never be thrown away, as although they lay the majority of their eggs, impregnated or not, within the first three days of their existence, still even after that time they may pair, and a few fertile eggs may be secured. When tied up to the tree, whether they pair or not, most likely they attract the wild males, and that particular tree becomes a rendezvous. Although, as far as I have been able to observe, they do not feed during their existence, still they live for eleven days, and it is very probable that during that time other females, less coy, may have come out of the cocoons. All males, for which within forty-eight hours mates have not been procurable, should be liberated at this same tree, as they soon batter themselves to pieces in confinement.

In hatching the eggs out, there is no need to put them in the sun, or to take any precautions in increasing or decreasing the ordinary temperature of the house, which is quite sufficient. The shells of the eggs are so tough that scraping them off the sides of the boxes in which they have been laid does not injure them. Care must be taken that the small shallow boxes containing the eggs are protected from rats, mice, ants, &c.

This silkworm may either be reared in the house or be allowed to wander unrestrained on the trees. Like many an other wild species of caterpillar, during the earliest stages of its existence, it is apt to wander a good deal, but during the latter moiety of its life it keeps very much in one place, increasing in bulk most rapidly. When I kept them in the house I found, after many experiments, that the best way, acting on a suggestion of Captain Hutton's, was to place twigs about 12 or 15 in. long in wide-mouthed jars, or earthern pots containing five parts of earth to one of water. Into the mouths of the jars, after the twigs have been put in, cotton wool should be rammed. This answers the double purpose of keeping the twigs steady, and of preventing the worms crawling down into the water and drowning themselves. I then knocked up some small boxes or frames without backs and fronts (a large box with the bottom knocked out, and the frame divided into several small compartments or pigeon-holes will do equally well), so that the air blew uninterruptedly through. Then pasting paper, inside on top and bottom and both sides, so that the frames were clean, smooth, and light, over the open ends I put mosquito net (thin split bamboo screens would do as well), immovable behind and movable in front, so that the jars could be taken in and out. These frames were about 18 in. high, 9 in. broad, and the same deep, so that the leaves of the twigs touched the sides all round, and when the caterpillars crawled off on to the frame they met with leaves at very short distances, and naturally went back to the twigs, and in this way I confined them until they had got through their third moulting, and very few died, although in my previous attempts I had always lost many when they were young. In each frame I put among the tiwgs, resting on the leaves, the small box containing all the eggs laid by one moth, about 250, as soon as they began to hatch out, taking care not to touch them, for this makes them restless, but allowing them to find their own way on to the leaves, I fed my silkworms on the leaves of the Nàudrook (Ficus Benjamina), a tree which is largely planted along the sides of the made roads in the S. M. country, and which always has a plentiful supply of small-sized thick leaves, and of which the leaves, on small twigs about a foot long, will generally keep fresh for twenty-four hours, often, when the caterpillars are about to moult, and more especially on the day when they hatch out from the eggs, for forty-eight hours. All that is necessary to do each day is to put fresh twigs into the jars and put the old twigs on the bottom of the frames, pointing up to, and leaning against, the fresh twigs. The worms will then crawl up of their own accord, and in a few hours' time the old twigs may be taken away. I put the caterpillars, after their third moulting, that is, after they had less propensity to wander, on an artificial hedge, made, in some cases, of large twigs, or small boughs placed in jars of earth and water, in others of the boughs hung over bamboos suspended from the rafters of the room. These boughs were placed near enough to one another to form a continuous hedge, and the caterpillars, when they had exhausted the supply on one twig, crawled on to the next. The advantage of arranging the food in this way was, that there was always a free circulation of air around the caterpillars, and all the dung and noisome matters fell on to trays placed under the hedge, and these trays were thoroughly cleaned every day, when the boughs were renewed. I noticed that sometimes when the caterpillars were moulting the whole of the old skin did not come off at once. This was, I believe, owing to the caterpillars being reared indoors; and as they are found principally during the monsoon, I came to the conclusion that a moderate amount of moisture falling on the leaves and caterpillars is necessary to their well-being, I therefore sprinkled the hedge once a day with a little tepid water. As soon as the large red stains, caused by the fluid which the caterpillar discharges when getting rid of all superfluous moisture before spinning, appeared upon the paper covering the trays, I had to be very careful in renewing the boughs

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of the hedge, for I found that if I disturbed the caterpillar and caused it to leave off spinning, much silk was wasted by the caterpillar leaving the first partly formed nest and going to another place; sometimes, too, it went to where another caterpillar was spinning, and a double cocoon is very difficult to reel. I found that when I took the caterpillars which were about to spin and put them under cover, or in a new place, they were a very long time before they settled down; I therefore came to the conclusion that the caterpillars should be allowed to form their cocoons on the hedge, and not be disturbed until the cocoons were well formed and the caterpillars quite hidden by the silk, when the twigs to which the cocoons were attached were cut through by a strong pair of scissors, and hung up till they (the cocoons) had become dry and hard, in places where the rats could not get at them. The room or shed in which the caterpillars are being reared should not be open towards the north and east; for at one time, a cold east wind, during the month of October, killed a great many worms in a few hours. All possible precautions should also be taken to keep out rats, squirrels, and mice, besides the host of enemies in the shape of birds and bats, which may come in at the open window. Many insects, too, both crawling and flying, will always be ready to attack the helpless caterpillars.

I have never tried to rear caterpillars on the trees in the open air systematically; but Mr. Brownlow, of Cachar, published in the Journal of the Agri-Horticultural Society a paper on the Open-air Rearing of Undomesticated Silkworms, in which he recommended that "the forest trees set apart for the rearing of the worms on should be kept at an uniform height of 10 ft.; large-sized boughs should also be placed in the ground, and in the course of one year these will become trees of the right size. After the plantation is formed, the cocoons may be hung on a tree when about to hatch out, and a roomy but not very coarse net placed over the hole, so as to keep the moths in, and the moths will most likely pair there;" or else the moths may be kept in confinement and be paired there, as I have already shown; anyhow, I should recommend that the female be not allowed to lay her eggs on the trees, but that the moth be put into a small box or basket, and the eggs collected into some small receptacle and hung among the leaves in the most sheltered places. No caterpillars should be reared on the tree over which the net is placed; it should be allowed to become as shady and full of leaf as possible. There can be no doubt that the caterpillars, which live entirely in trees in the open air, will thrive best so long as the weather is propitious; but it must be remembered that they have many enemies both nocturnal and diurnal, and that certain sudden changes in the temperature may be fatal to them; they will therefore require close watching. The doubt naturally arises as to whether the silk obtained from the smaller number reared out of doors, will be more and better than that spun by the larger number of worms kept indoors; for I think that those which are kept indoors can be easier protected than those which are out of doors, and if care be taken to always supply them with the freshest food, I see no reason why they should not grow as large. Both the methods of domesticating the caterpillar should be carried out simultaneously, and the results noted carefully. In fact, this branch of industry is yet in its infancy, and requires many experiments to be carried out, and comparisons of different methods to be made, before the final conclusions can be drawn as to whether it will prove a commercial success or not in Bombay.—*V*, *Indian Economist*, p. 15.

MEMORY.*

WHILE the whole region of philosophy is open to us, more attention is paid in our day to physical than to mental or moral science. In popular language, by an arrogant metonymy, the former usurps to itself the name of science; whereas, the world within is certainly no less important than the world without, revealing to us processes and laws no less wonderful. The student of mental science tries to obey the Socratic precept, *know thyself;* and to help him, the object of his study is ever with him, for the mind is at once the student and the thing studied.

As long as such summaries are not regarded as absolute, there can be no harm but rather advantage, in briefly scanning, by way of introduction, the popular list of the mental faculties. These are—(1), *consciousness*, by which we know our thoughts and feelings; (2), *perception*, through which we gain our knowledge of sensible objects; (3), *attention*, directing consciousness towards any one point; (4), *conception*, which individualizes and generalizes notions; (5), *abstraction*, separating the combinations that are presented to the mind; (6), *association of ideas*, regulating their succession; (7), *imagination*, which from existing objects forms for itself new creations; (8), *judgment*, which helps us to adjust subject and predicate;

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and, last of all (9) we have the *faculty*, which this evening occupies our thoughts. In the course of this lecture I hope to show that it is not the least honorable among the nine.

I. If we look on memory as it affects the feelings and interests of mankind, we shall see that it is one of the most valuable powers we have. Hence it has been a favourite subject of investigation, often to the neglect of the other powers. Men may be even ignorant of the names of those, but they claim memory as their own. If things go right with them, they ascribe the praise to it: if they are unsuccessful, its absence is the cause. Thus they merge all mind into one of its individual, but certainly noblest, parts; and with some show of reason, for no one of the mental faculties is more closely bound up with the multifarious interests of man, than that of which we this evening speak.

1. Memory lies at the basis of all mental operations, none of which can be worthily carried on without it. A man may devote his whole intellect to the elucidation of a subject, and his thoughts thereon may be original and profound; but, if memory be wanting, they are of no permanent benefit: thought becomes the mere pastime of the minute, strengthening but not enriching the mind, springing up to delight for a moment, then vanishing for ever.

2. The world is rich in the records of knowledge and science, nearly every path in which has been more or less explored. To the study of these a man may bring the vigour of a keen understanding; yet, if memory be away, he may live among them, but he can never know them. Hence the foundation of further research is undermined, for investigation can be carried on only by knowledge. Thus the course of discovery would be stopped, and the arts and appliances of our accustomed life would be lost.

3. Memory lies at the foundation of social intercourse. We glide insensibly from infancy into an acquaintance with each other, with things around us, with the language and customs of the outer world; and all this is effected by numberless indistinguishable acts of memory. The vocabulary of words which we speak so fluently, the art of conversation, that sweetest pleasure of social life, is the result of a thousand minute remembrances. All our petty daily acts are performed from customary habit, or, in other words, from memory; which too, supports the fabric of our transactions with our fellow men.

4. It is memory joined with consciousness that gives us the persuasion of our personal identity. We know that we are ourselves from day to day, from youth to age, not because friends assure us of the fact, or because we see ourselves in the glass, but because our individual being is bound to us by an unbroken chain of the smallest memories.

5. The memory of the past as it influences the future constitutes experience. In all our conduct we either imitate or shun the past, and if this be blotted out, we lose a rule for our guidance, our future is obscured.

6. Memory has especial connexion with those of our enjoyments which consist in reflection. The things we say and do perish not in a moment. Like ourselves, they do not *all* die, but rather in memory live often a more perfect life. For all our still and meditative enjoyment we are indebted to this faculty. As the traveller, standing on the borders of the beautiful country he has just traversed, loves to linger on the various scenes and incidents of his journey, so, next to the pleasures of hope, nothing is more pleasing to the good man resting awhile on the brink of the grave, than to live over again the acts and joys and even griefs, which went to make up the sum of his earthly existence.

It is true memory is often as active in inflicting pain as in affording pleasure, but this is only in the case of those who have perverted its uses by burdening it with the record of their crimes. Then, punishing the wrong, she only serves to vindicate the right.

From even this meagre view of its comprehensive uses, we may see how fundamentally important is memory in all human affairs. It is essential to each step in the progress of the mind, it is the basis of the universal active life of man.

II. But let us consider more closely in what this faculty consists. Memory is the power we have of recognizing an idea which has been before present to the mind, *as having been before present.* An object meets our eyes and immediately we conceive an idea of it. Then the mind is able, at any distance of time, and without the presence of the object, to recall and recognize this idea. Then in some mysterious manner the idea must have been all the interval in the keeping of the mind; and so are opened up to us the two chief parts of memory: (1), the passive ability of retaining ideas, and (2), the active power of recalling them.

1. As to the first of these it is one very secret and mysterious, yet in all things fundamental. An idea is presented to us which, under certain circumstances, we receive and appropriate. But it is evident that the mind cannot retain the myriad ideas which are constantly suggested to it. Indeed its being able to do so would be of no possible advantage. The greater part of the subjects which successively occupy our thoughts depart without leaving any impression of their presence. We have, then, to consider what the conditions are

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which lead memory to retain some things in preference to others, and we find that there are two principles of our nature which influence it, viz.:—*attention* and the *association of ideas*. But as this latter has more to do with the recalling of ideas, we will leave its consideration for a while.

Attention is the power we possess of concentrating our thoughts on any subject, for any length of time, to any degree. Men have disputed as to whether this *direction of consciousness*, as it is sometimes called, is really essential to all the functions of memory: and, in support of the theory that it is not essential, they bring forward dreams, which are often painfully remembered in the morning, although, they say, no act of attention has been exercised in the night. But it would seem that in this, as in all apparently unconscious operations of the mind, there must be some degree of silent attention exercised: else, why is it that when a preacher stops in his discourse, every sleeper in the church wakes up? At any rate, no act of voluntary memory can be performed without it. And the memory of particular events or ideas is in exact proportion to the degree of attention exercised in securing them. If we read a book attentively, the ideas contained in it are mysteriously wrought into our mind: they become ours as if they belonged to no other; and, if we would, we cannot dislodge or annihilate them. If, however, our reading be inattentive, page after page is turned over in vain; despite her keenest susceptibility, memory will only be darkened by the shadow of the passing ideas.

In order to the co-operation of this faculty, the mind must take an interest in what memory would acquire. No matter whether it be attractive or repulsive, tough metaphysics or tender romance, we must feel a sympathy with the author's subject, and a longing to see light in his light. Without this absorbing interest attention will surely flag.

Curiosity is an efficient help in securing attention. This is an innate desire for knowledge, growing with our growth, and generally proportioned to the mental capacity. In different persons it is of different degrees, tends in various directions, and so determines their various pursuits and callings. The action of curiosity is often voluntary and capricious. Sometimes a passing phenomenon or a hidden mystery excites it; at other times it is dormant in the presence of perplexing wonders. But it may be brought to a great degree under man's control: he may direct it whither he will and stimulate its action in his service.

Again, the attention is secured by whatever appeals to the *passions*. These, comprising the desires, appetites, and affections, may be said to make up the whole of conscious life. Göethe calls them the steeds that draw the car of existence. And this is true, for every word we say, every deed we do, is under the influence of one or other of them. We all know how we are affected by our appetites. If a man be hungry, and among other objects a good dinner be set before him, there can be no doubt as to what will most effectually rivet his attention. An epicure does not forget the sumptuous feast to which he sat down years ago. To the thirsty traveller in the desert no sound is more grateful than the murmuring waterspring, and the remembrance of the time and place where he first heard it will dwell with him for ever. Anything, too, affecting the desires fixes the attention. If a man have the love of riches, he will be instantly arrested by anything that appeals to his ruling passion; and, if a treatise on the best means of getting wealth be the subject of his study, how eagerly does his attention settle on it, and transmit it to the care of memory. All that touches our affections has immediate influence on this faculty. *Meminerunt omnia amantes.* Why do we so vividly remember the faces and hand-writing of our dearest friends, and why do they haunt us from our earliest days to our last moments, but because they have been impressed on our memory by love. *Fear* or terror is equally powerful, for the man who has seen a ghost even in imagination only, never forgets the vision. *Hatred* has a most wonderful capacity of remembrance: the most trivial look, the most insignificant act, is treasured up by her. *Benevolence* loves to linger over the object of her pity: *resentment* gloats over the memory of him who feels her weight. In fact, there is not a principle of our nature, from the peaceful consciousness of our being, up to the stormiest passion that can shake our heart, which, if it be appealed to, will not gain the attention and so secure the memory.

If, then, this be the case, gentlemen; if our passions be the winds by which the waves over which the treasures of knowledge must pass into the mind, how necessary that they be always under our control!

2. Let us look at the active power we possess of recalling ideas, which is equally important with the passive ability of retaining them. These two powers mutually depend on and support each other. The power of recalling ideas involves the previous power of acquiring them. We cannot recall what we have not acquired, and acquisition is useless without the power to recall.

The faculty we have of recalling ideas is sometimes unaccountably and to all appearance capriciously exercised. Often an idea with which we were familiar years ago is brought to our minds in the strangest manner. There being no assignable cause for its coming

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it yet thrusts itself before us when we least expect it. But there is a law of our nature which secretly influences the most unconnected thoughts, and this is the *association of ideas*. We have a thousand minute remembrances in the succession of which we can see no possible order, and yet there *is* a governing principle regulating the manner in which they succeed each other: the association of ideas is at the head of the whole world of thought. This principle is so mixed up with all the workings of memory, that some have resolved all memory into it. But here they are evidently wrong, for the mind cannot associate thoughts which have not previously been made her own, by the power of retaining ideas which memory alone possesses. This association is a general law of our mental economy, incapable of more accurate definition, though called by various names. It is a law which so orders it that one thought which we indulge in shall suggest another, and so on to infinity. The use and need of this law are apparent, for, since it is the means by which we recall ideas, it is the basis of the whole fabric of a ready memory. It has been classified under the four following heads, associations of *resemblance*, of *contiguity in time and place*, of *cause and effect*, and of *contrast*. Thus, to illustrate these:—

(1.) The sight of a faithful portrait suggests the idea of the original; and, if any two objects be alike, the idea of the one calls up that of the other.

(2.) The sight of a particular street suggests the street into which it leads: our friend's hat connects itself with his absent head: the arm-chair reminds us of its usual occupant.

(3.) We see a wound and directly think of the suffering it causes: conversely, the flowing tears suggest some bitter grief: so, too, the world reminds the devout of the Great first Cause.

(4.) The idea of a giant raises the notion of a dwarf: selfishness contrasts itself strong with generosity: we think of disease as the opposite to health.

It is clear, however, that there are not always fixed laws for the succession of every thought. There may be large classes of our associations not referable to either of the above principles, but to others of which we are yet in ignorance, and which may be undefinable. Although every one can furnish for himself illustrations of this, I will quote one from the Leviathan of Mr. Hobbes. At a conversation on the death of Charles I, a royalist gentleman present startled the company by asking the value of a Roman denarius. On inquiry it was found that his thoughts had been led to the subject thus. The idea of the king's death brought to his mind that of his betrayal by his pretended friends. This led him by natural transition to our Saviour and Judas Iscariot, which again brought him to the price of Judas' treachery. Thence his thoughts were directed to the amount of the traitor's reward, which finally led him to his seemingly incoherent question. Cases as singular as this are of such constant occurrence as to render further remark superfluous.

The association of ideas takes its rise in a voluntary effort of the mind, perhaps affected from without, by which some patriarchal idea is first secured. A man may have so little control, however, over his mind, that no connected train of thought can long maintain itself free from desultory rambling; but it is the glorious prerogative of educated men to have the mind under such discipline, that the succession of its thoughts shall bear the impress of its great ruling idea. Hence the necessity that our aims in life, the objects on which we best love to dwell, our great governing principles, should be such as to give a wise and manly tone to our associations. Hence the necessity of a mind so ordered, that all its thoughts, on whatever subject, shall flow in a neat and orderly succession.

I have thus tried to explain the powers of memory, and the springs which regulate its action. Let us pause for a moment to consider the completeness of the provisions for its manifold operations. We see the mind able to concentrate itself on any single object to the exclusion of others. This is by the power of *attention*. All that is thus intently regarded is deposited in the mind, of which henceforth it forms an inseparable part. At any time we are able to summon these objects, or our ideas of them, into our mental presence. As, at our bidding, they come, they bring with them countless other ideas, passing before the mind in endless sequence. And thus myriads of dormant thoughts, which must otherwise have waited for an independent act of recollection, are suggested to us by that mysterious law which we call association of ideas. All this is memory: and what a complication of wonders does it not present to every one who soberly and earnestly ponders its resources.

III. Let us, in the third place, consider memory in its connexion with our bodily organization. Without dwelling on the mystery of the intimate union of two such incongruous things as mind and body, we know that, since all our mental operations are conducted through the medium of the brain, the mind is conditioned by physical influences. And learned men tell us that memory, of all the mental powers, has the closest connexion with the bodily functions. I shall simply show the varieties of this dependence, giving a few unconnected anecdotes by way of illustration.

1. Memory seems to keep pace with the several stages of human life. In infancy it is in

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abeyance, and hence infants have no consciousness of personal identity. No man can recollect himself as an infant, or recall the circumstances of his earliest existence. But with the growth of the body memory begins rapidly to wake up and develope, and even in childhood the mind is susceptible of impressions as deep and lasting as any which it receives in after years. Many of life's pleasant remembrances with which our mind is now stored, and which will linger with us to the end, are those we have brought with us from childhood. At the time when we get our education in knowledge, memory seems to be at the acme of its strength. This may be in part ascribed to constant daily practice, but we cannot doubt that the school boy who has to learn a thousand uninteresting rules, and load his mind with numerous unconnected words, exults in the vigour of his memory. In after years it will never gracefully submit to the lessons of youth; and so, in the studies of our maturer life, reason is more consulted, while memory is appealed to less. The effect of old age on the memory is familiar to every one. The decline of memory in company with the bodily powers may be thus accounted for. Age blunts the sensibility of the passions, so that to secure the interest and attention of an old man becomes a work of difficulty; and without these the whole fabric of memory falls to the ground. But a singular fact connected with the decay of this faculty in old men is, that while they are unable any longer to acquire new ideas, they keep the power of recalling those which they have acquired before. This is the reason why they so thoroughly remember the events of their early life while they forget those of a recent date. Hence they remember a long story perfectly, and with a laudable minuteness they preserve the sequence of facts, while nevertheless they forget every instance in which they have repeated it. This gave rise to a remark of Dean Swift, who wondered that old men should remember their anecdotes so distinctly, and yet have so little memory as to tell them twice in the course of the same conversation.

Let us for a moment consider the exquisite harmony which subsists between this faculty and the several periods of life. In early youth the mind is free from those cares of personal existence which never fail to come with riper years. Then the mind stands on the threshold of life, for the due improvement of which it has to prepare by laying in a store of discipline and knowledge. Many are the dry and wearisome and difficult studies that have then to be pursued. Is it not, then, a beautiful harmony which arranges that in youth memory shall be in her strongest vigour? In old age, when man is again free from the cares of active life and submits again to the guardianship of others, when we have no earthly future for which by knowledge to prepare, then, and not till then, does memory depart from us, resigning all her powers but one, which, enabling us to live again the life of the past, serves to remind us of what she herself once was to us.

2. Let us see how this faculty stands affected by the bodily health. All its impressions must come through the brain, which receives them from the nervous system, which again is dependent for its tone on the general health. The body is freshest at the beginning of the day, and then is the time of memory's vigorous susceptibility. Every dreamer accedes to the truth of this, and it is acknowledged by the wise student, who knows that for learning his difficult task there is no time so fit as the early morning.

The effects of disease on memory cannot be reduced to any definite laws, yet, diversified and contradictory as they are, they must excite the deepest interest. It cannot be laid down as a law that all physical derangement affects the memory, for innumerable instances prove the contrary.

Sometimes the constitution is thoroughly worn out, and the energies of life are nearly extinct, while it flourishes in its ancient strength.

The faculties of the dying man are often clear and unclouded, and visions of early scenes and friends float before his mind with the utmost distinctness. It has been sometimes noticed that in the last struggle of dying nature, the memory has put forth powers almost miraculous. An eminent physician tells us of a lady who, just before the close of her last illness, spoke only the Welsh language, which she had discontinued from childhood and apparently forgotten. A Lutheran clergyman in America states that some Germans and Swedes, whom he visited in their dying hours, were able to pray fervently in the mother-tongue which they had not spoken or listened to for many years. In some persons when near death the memory has been so vivid, that an appeal to it has been the means of their unlooked-for recovery. An aged Scotch woman was apparently at the point of death, when the mention of an eagle's nest which in her childhood she had often visited, roused her to instant consciousness and recovery. Another case is that of a gentleman who had lost consciousness of things around him and was in a hopeless state of catalepsy. Among the companions of his early life who visited him was one who was seized with a sudden impulse which was productive of the happiest results. He pointed to the sun which was then setting, and impressively quoted some classical lines of which he knew the sufferer had once been fond. The sick man was filled with emotion, he gazed long and thoughtfully

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on the speaker, and, to the surprise of all present, he mentioned the author's name and finished the quotation. From that moment his recovery was gradual.

As a general rule we cannot doubt that memory is more or less affected by disease, sometimes beneficially, most times hurtfully. It is well known that all those diseases which man by his vices brings on himself have a most pernicious influence, as on the whole mind, so especially on the faculty of memory. As proof of this, let me give a singular instance of the effect of drunkenness. The slave of this vicious thirst was a porter, and most strangely affected was he by his besetment. What he did when sober, he totally forgot when in his degradation: and of what he did when drunk, in his rational moments he was quite unconscious. Under the influence of his vice, he remembered only the drunken past: when free from it, he retained only the recollection of his sober actions. Thus he contrived to keep up two running lines of existence, without reaping the advantages of one.

As we cannot specify particular diseases as always followed by particular effects, I shall simply give some unconnected anecdotes in illustration of their general influence.

A much-to-be-pitied individual is said to have sustained an injury in his tenth year, from which time his memory became utterly torpid. But the mystery is that he distinctly remembered all that man usually knows of the first ten years of his life.

An eminent physician tells us that a gentleman met with a misfortune, by which the memory of exactly four years of his life was taken from him. He could distinctly recall the former part of his life, but of the last four years he was utterly oblivious.

I am sure you will pity the sad calamity of a scholar who, by a sudden stroke of disease, entirely lost his knowledge of the Greek language. His other acquirements remained still his own, as doubtless did also the memory of the loss he had sustained. May no candidate for matriculation forget his optional language on the eve of examination!

A similar case is on record in which a woman was so frightened by the partial fall of the church in which she was worshipping, as to lose all remembrance, not of the accident itself, but of the three days preceding it.

It has often occurred that memory has been shorn by disease of some of its peculiar functions. A literary man of the last age was unable, after a stroke of paralysis, to call any thing by its right name, though the things themselves he distinctly remembered.

But I must not omit a remarkable case, which some years ago occurred in Philadelphia. A Miss R. was attacked by a species of paralysis, which, while it left her other faculties unscathed, entirely destroyed her memory. Her mind was thus reduced to a perfect blank, and her education had to be commenced again. She had learnt the alphabet and gone through some of the elements of knowledge, when another fit restored her to her former self, and she was once more in possession of her usual powers and learning. A third fit brought her down again, and by a fourth she was again restored. So she continued alternately in one or other of these conditions. In the one she knew several persons, and was mistress of several accomplishments: during the other she was a mere child, unable to read or write, and struggling in her ignorance with the rudiments of knowledge.

Powerful emotions amounting to disease have been known entirely to suspend the functions of memory.

A room may be crowded with persons, all of them conversing with animation, and a man wrapped up in melancholy reflection may see and hear all that passes, without remembering a single incident. This is especially seen in the case of men who have recovered from hanging, many of whom have declared that, from the time of leaving their cell, they had no consciousness of what occurred, although they performed many voluntary actions while on their way to the scaffold.

I shall conclude my remarks under this head by giving one last illustration of the subjection of memory to disease. A lady of considerable attainments was attacked by a malady which, at its departure, left only this effect upon her—the total eclipse of memory. Her other faculties remained intact, her judgment was still vigorous and correct, her imagination was vivid as before, but *memory* was gone. As far as the ordinary routine of life went, its place was in some small measure supplied by habit; but in all cases where intervals of time occurred, she was in fancy itself. Her reading was the gratification of the present moment, her intercourse with mankind was that of a stranger with strangers. The past in her existence was blotted out, and thus in some respects the fairest part of her life was gone.

IV. Let us briefly glance at the varieties of memory in different individuals, for men's minds share in the infinite variety which we see in their bodies. One man is endowed with the loftiest genius, another suffers that mental destitution which leaves him an idiot. There obtains among mankind the most comprehensive variety in the allotment of the various faculties. While some are endowed with an equal and moderate proportion of all, most are remarkable for the preponderance of some one particular talent. The strength of one man

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lies in his reasoning powers, another prides himself on the vigour of his imagination. One man revels in the exercise of wit, another glories in a capacious memory. But the fact that one man, while he has some measure of all the faculties, yet possesses some *one* in predominance, implies that there exists a very great variety in the distribution of the same faculty. Observation confirms a truth which, if it applies generally to the mental powers, holds good especially with regard to memory, in whose bestowment is visible surprising inequality. Often to this variety men trace the numberless distinctions which present themselves in life. Two individuals are observed to be very unequal in respect of their attainments, while they both spend equal time and labour on intellectual pursuits. The one is compassionated because he has a bad memory, the other is felicitated on his good one. The same may be said of two boys in a family, and the gradations of merit in a school are said to be regulated by the same standard. It has come to pass that the fickleness of nature in her bestowment of this faculty is regarded as the source of the distinctions to be found in intellectual acquirements.

But let us look into the variety itself. We find some men have a wonderful facility of retaining everything, while others less fortunate have a memory for nothing. In the case of some, to read a book is at once to make it their own, while others vainly con the weary pages. To some the past is distinct as the present, to others it is only a misty cloud. One is a Corsican boy who can rehearse forty thousand words, whether sense or nonsense, as they are dictated, and afterwards beginning with the last word repeat them backwards without mistake. Another man is Montaigue, the French Essayist, who, though a man of genius, has a memory so feeble that he can trust it with nothing. He is obliged to note down all the minutiæ of his daily affairs, and he sometimes forgets why he goes out of doors. One man is a very dwarf in memory, another a huge Leviathan. This difference may be in some degree owing to cultivation, but in all these cases of extraordinary memory, nature is undoubtedly the all-important cause.

Seeing this many have laboured to assign the reason of her unequal bestowments, but numberless facts prove the fallacy of the attempt.

It is often contended that a good memory is rarely joined with a sound judgment or a quick imagination. This is simply absurd, for there is no wisdom in supposing that, because a man evinces a wonderful power of retaining thoughts, therefore he has no power to think them for himself. No law can be laid down on this subject. Many men of gigantic reasoning powers have had most retentive memories, as in the case of Sir Isaac Newton. Many men, too, of weak memories have had acute and vigorous understandings, of which Montaigue above-mentioned was an instance. Facts go to show that memory is not in ratio, either direct or inverse, with intellectual ability. The horse, the dog, and the elephant, which no one accuses of reason, continually exhibit amazing feats of remembrance.

Again: some assert that a preponderance of any talent in the mental constitution is accompanied with a proportionate memory *in the same department*, and that so a mathematical genius is endowed with a mathematical memory, and a natural orator with the species of memory his art requires. This wrong supposition destroys the integrity of mind, and casts down memory from its seat as an original faculty. I should not mention the theory, did not some facts seem to countenance it. Many of the great musical composers have shown incredible strength of musical memory, acquiring and retaining the most intricate pieces of music after once hearing them; while as to other things their memory was as that of other men. Many poets, too, of ordinary memory on most subjects, have in their own sphere been extraordinarily gifted. Lord Byron, for instance, is said to have known by heart every line of his voluminous poems. But it is needless to resort to the theory I have mentioned for the solution of these wonders. The enthusiasm of these men gave their attention, when directed to their favourite studies, a force and energy which no other subject could inspire; for memory is always strongest when dwelling on the theme to which it is habitually directed. So that what some would attribute to nature, we may safely impute to cultivation.

But, after all, as the points of difference between a prince and a beggar are not so many as those in which they are like one another, so the disparities of our different memories are not so numerous or vast as the points of their resemblance. If we exclude a few men of extraordinary genius or imbecility, we may suppose the rest of mankind to have minds and memories of nearly equal capacity. There is scarcely any one who has not ability to learn the use of language. Every one can recognize at first glance the forms of an infinite variety of surrounding objects, and acquire such an acquaintance with the laws of nature and the conduct of human affairs, as is necessary for directing his course in life. When we reflect that the worst memory among us has now stored in it many thousands of thoughts and scraps of knowledge, every one of which it can at a moment's notice command, we shall be satisfied that the natural disparities among men in their respect are not nearly so great as at first view they would seem to be.

V. Let me conclude this lecture by a few hints on the cultivation of memory, which, as being the practical part of the subject, may

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suitably make the last impression. The improvement of which the mind is susceptible by culture is especially seen in the case of this one of its faculties, a truth of which the most elaborate argument would not so soon convince us, as will a few wonderful facts which I proceed to adduce. These would seem utterly incredible, were they not handed down to us on the best authority.

1. Scaliger, the illustrious classic, himself records that he learnt in twenty-one days the whole of the Iliad and Odyssey, that is, some sixty or eighty thousand lines of Greek verse. Doubtless his powers of retention were naturally strong, but the constant habit of attuning his mind to the melody and rhythm of Greek poetry must have been the main instrument of his success.

2. Justus Lipsius is said to have had by heart the whole of the voluminous histories of Tacitus. His deep reverence for that author, and incessant perusal, must have been the means of his astounding familiarity with his writings.

3. We read of the monks of the Middle Ages that, by constant practice they had so strengthened their memories, that they could learn off whole volumes of the ancient classics without much difficulty. These men are wondrous instances of what cultivation does for memory.

4. But there is an instance in modern times of a power of memory which has scarcely been surpassed, and its solution must be mainly sought in persevering application. An old beggar in Stirling was so conversant with Holy Scripture, that he could tell the number of chapters in every book, and the number of verses in every chapter, throughout the Bible. If any verse were misquoted he would instantly detect the misquotation. Once he was asked to repeat the ninetieth verse of Numbers vii, on which, after a little hesitation, he replied: "You are fooling me, gentlemen, that chapter has only eighty-nine verses."

5. Sir Walter Scott had attained to a wonderful comprehensiveness of memory. After reading the Pleasures of Hope for the first time, he could repeat every line of it: and his powers were always thus at his command. Sir James Macintosh, Sheridan, and many others, are prominent examples of the same truth.

These men, however, had trained their memories in some one particular branch of study, about which they felt an overwhelming enthusiasm. Others there are who have cultivated this faculty generally, so as to have it at command on any subject. Of these the renowned Dr. Thomas Fuller is one, of whom we read that, after once walking from Ave Maria Lane to the extremity of Cheapside, he enumerated every shop which he had passed on his way, with the inscription over it.

2. Magliabechi, the celebrated Florentine, once received from a friend a long Latin composition, that he might read and give his judgment thereon. Some time after the paper had been restored, the writer came one day to Magliabechi in great distress, saying he had lost it, and begging him to try and remember as much of it as he could. Very soon the Florentine presented his friend with an accurate copy of the departed manuscript.

In the early ages of literature, before men knew the art of printing, memory was far more generally valued and practised than now. Homer and the great dramatists delivered their immortal poems to large audiences without book. Poets then could not multiply copies of their songs for general circulation. Favourite works were in most cases committed to memory, whose ordinary feats *then* would seem almost incredible *now*.

Thus you see by many brilliant proofs how gratefully and well memory repays men for their care and cultivation. Need I use argument to try to induce you to make *the most of your memory?* As you cultivate it, so stands or falls the value of your whole mind. As a house to which there is easy access by a spacious avenue is more worth than one the path to which is dark and narrow, so the most valuable mind is that to whose secret places there is easy entrance by a ready memory. Here interest and duty are sweetly blended. It is memory alone that enables you to transact the affairs of your daily life; it is her finger which in the light of the past indicates your future; through her you are conscious now of your own identity, many of your purest and most refined enjoyments spring from her; she is the key of your knowledge, actual and potential; in fact, it is hardly too much to say that memory has made you what you are. Both gratitude and self-love, therefore, bid you imperatively to labour hard to strengthen and expand this all-concerning faculty.

2. Let me briefly now denote the method in which this task should be performed. Nothing can be done in this respect but by daily constant practice. There must be a gentle but unceasing strain on the mind, which shall gradually enlarge and widen it. I do not say that sudden spasmodical efforts are of no use in strengthening the memory—that would be to deny that ours had ever been strengthened at all—but I do say that, if you would develope a memory at once susceptible, capacious, and ready, it must be by regular connected practice. You must do something every day in carrying out your great design. Every day you should have some stated time in which

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to learn some stated task. As your memory gradually grows stronger thus, your task should increase in length or difficulty. Nothing should come between you and the execution of this rule. Then, at other hours, when your minds would otherwise be vacant, the things you have acquired should be recalled. They should be the centre of your thoughts, the theme of your meditations. Then, again, your conversation with others should often turn on them, for this is an effectual method of permanently fixing them in the mind and of drawing out your power of ready recollection: and thus the two chief parts of memory would be systematically developed. This is no poet's dream or enthusiast's vision, it is the outline of a plan which has been proved and approved by the greatest philosophers. There are two principles by which you must be guided in carrying out this plan.

(1.) You must make a proper selection of subjects to be remembered. Every thing that is heard, or read, or done, is not worth retaining, and each one must judge for himself what he will remember. The mind must not be left to receive or reject according to the impulse of caprice or the direction of chance. Only such books should be chosen as convey in the clearest manner the subject of which they treat. It sometimes happens, because we read too much, that we only gain doubtful confusion instead of accurate knowledge. Here our vigilance cannot be too great.

(2.) Then to every thing which we wish to know, we must direct a steady attention. The dependence of memory on this faculty I have before endeavoured to show. To fix the attention is exceedingly difficult, and the fault with most of us is that we succumb to, instead of resolutely mastering, the difficulty, and compelling our vagrant attention to the point.

3. Let us lastly see what *helps* we have in this our undertaking. The best of these is one which nature herself supplies, and which consists in the habit of *arrangement.* As the exercise of fixed attention makes every thing our own, so an orderly distribution of our acquisitions tends to keep them so. Every solitary idea goes to form part of the grand fabric of universal knowledge. In this huge mass it would soon be lost from us, were there not certain general principles which guide us in its first disposal. Knowledge is divided into several branches, these again are sub-divided into many classes, under one or other of which every idea may be logically placed. It has then a safe resting-place, an appropriate niche in the grand temple, where it may abide till we summon it before us.

(2.) Another important help to memory is the habit of writing notes of our knowledge. Too extensively adopted, this practise is apt to weaken the mind, but used with caution, it is one of its best assistants. If any one takes the trouble to write out the ideas he has acquired in his own words, and according to his own arrangment, he will be much more likely to retain them than if they were learnt from the book and in the words of the original. Occasional notes, too, of our various studies are of great utility; but every one can follow out these suggestions for himself.

(3.) Time would fail us to enter on the history of mnemonics, but the chief *artificial* help to memory was one of which the ancients largely availed themselves. Their most accomplished orators were accustomed to study their speeches as if in the room where they were to be delivered, connecting the several parts with the different corners, pillars, and other objects in the apartment. We know that they arrived at great skill in the use of this topical memory.

The most elaborate help was one published by Dr. Grey, in a book which he called "Memoria Technica." In this he exchanged the numerical figures for letters of the alphabet, and thus made simple words to stand for dates. These being affixed to the names of persons, places, or any particular events, as terminations or post-positions, materially assist the student in retaining the chronology.* But all these devices and systems are not to be compared with that grand help which memory derives from constant ceaseless practice.

The most interesting part of our lecture is at hand, and I have only to observe this in actual conclusion. If, gentlemen, anything I have this evening said has given you a loftier ideal of memory, and impressed you with the importance of its cultivation, let me express my hope that you will act up to your conviction. If such be your resolute purpose, I congratulate you, for knowledge is power, and memory is the key to knowledge. I may also congratulate myself, for my highest aim will have been accomplished; and, among our other remembrances, perhaps this evening's occupation will not be forgotten.

'*Forsan et hæc olim meminise Juvabit.*'

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* Dr. Grey's system :—

a	e	i	o	u	au	oi	ei	ou	y
1	2	3	4	5	6	7	8	9	0
b	d	t	f	l	s	p	k	n	z

EXAMPLE—The twelve Cæsars in two memorial Hexameter lines.

The Chronological terminations are in italics.

Jul*ios* August*el* et Tiber*bu* Caligul*ik* Cla*od*,

Ner*ul* Galb-Otho *sou* Vit-Ves*pois* Tit*pou* Do mit*ka*.

The first six general councils of the church, with popes, emperors, and heretics concerned.

Nic Syl Con Ari *tel*, Co Da The Ma*teib*, Eph Ce The Nes *fil* Chal Le Mar Eu Di*ola*, Co Vi Just O*lut* C Ag Co Po Mon Se*iz*.

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THE

REVENUE REGISTER.

No. 2. MADRAS:—MONDAY, FEBRUARY 16, 1874. [Vol. VIII.

MADRAS REVENUE RECOVERY ACT, II OF 1874—II.

We pointed out in our last impression some of the hardships which result to holders of land in the working of the Madras Revenue Recovery Act, and promised to suggest some means of mitigating the evils complained of. But first, it is necessary to examine into the causes which lead to these evils. Foremost among these causes, ranks the prohibition against the registry of fractions of survey fields. Now, the law of primogeniture is unknown among the Hindoos; partition of property, with very rare exceptions, being the result of inheritance. Why, then, should Government refuse to recognize every holder of land, however small his holding, as a landholder? The arguments generally urged in support of this prohibition may be briefly summarized as follows:—

1st. That such sub-division tends to create and increase pauper holdings;

2nd. That it will undo the work of the Survey Department; and

3rd. That it will entail considerable labour on the Revenue agency, both in the collection of revenue and in the preparation of accounts.

To answer the last objection, one's attention has simply to be directed to the vast amount of work entailed on Revenue officers in disposing of objections to the sale of land for revenue arrears preferred by owners and occupiers who may not be puttahdars, but who have been aggrieved by the summary procedure of revenue recovery. When the sub-division of survey fields is freely permitted, all this labour will vanish as the right to the land and possession of puttah will always go together, and all interests will be duly registered and recognized by the Revenue authorities. Besides it is notorious that while some saving of labour is effected by refusing to sub-divide fields in the Revenue Department, an increase of double or treble the saving effected is added on to the work of the Civil Courts which have often to interfere and correct the arbitrary procedure of revenue officers; so that this argument is obviously based on principles of miscalculated economy, which is, practically only a penny wise and pound foolish system.

That by permitting sub-divisions, the results of the survey will become obliterated, is not an argument that can be pleaded for the continuance of a hard and fast prohibition which, it has been seen, is the fruitful source of so much oppression and injus-

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tice; while, on the other hand, it may be fairly urged that the survey has nowhere proceeded with any uniform standard of what area is to constitute a field, but on the contrary that the arrangement into fields is of all sorts and kinds, sometimes less than an acre constituting a survey field, while in other instances 15 or 20 acres form but a third or fourth of one.

The first argument, viz., that by permitting sub-divisions, pauper holdings will be increased, has been made much of. We believe there is actually nothing so serious as to call for apprehension in the increase of petty—not pauper—holdings. Permit them to continue and increase, and they will work out their own extinction. They constitute a state of things which remedies itself, and does not depend for its relief on any legislative interference. It must be seen, that when the process of division and sub-division has arrived at a certain point of practicability (which, however, must, in each case, be left to circumstances to determine), any further sub-division of property will become virtually unprofitable to persons having occasion to make partitions of property. Take the case of one acre of land being inherited by eight heirs of the last proprietor. That each of them can earn his livelihood out of his share of this land, is a physical impossibility. In such a case, therefore, rather than divide the property into eight insignificant shares, they would prefer to sell the whole and divide the profits, so that when some such *ne plus ultra* point has been reached, there will be a re-action and a tendency to increased holdings. The term 'pauper holding' is a misnomer when applied to any extent of land, however small by comparison it might be, provided it is capable of maintaining its holder partially at least. When it ceases to do this, it will be the interest of its owner to dispose of it and to find a more remunerative object upon which to expend his labour and capital. The system, it will thus be seen, carries with it its own antidote and is self-corrective; but like the old cry of the Church being in danger, it has been simply held up too often as a mere bugbear.

The next cause of injustice and hardship to which we would draw attention, is the absence of legislative provision to compel the registry of all transfers of revenue-paying land, so as to render unregistered transfers invalid not only as regards the revenue authorities but to all practical purposes and intents. Regulation XXVI of 1802 contained such a provision, but Act X of 1861 repealed it so far as it related to the decrees of Courts; and this, combined with the prohibition against minute sub-division, has rendered that enactment a dead letter. When such a provision is introduced it will be the interest of every proprietor to register his holding before the revenue authorities. And it certainly is not too much to ask a paternal Government to compel its people, still in a state of primitive ignorance, to do what is good for them, instead of leaving them to find it out for themselves by bitter experience; for so long as the registry of transfers is left optional, there will still be scope for mischief.

For other causes of the lamentable state of things which we have endeavoured to expose, we are indebted to the vagueness and shortcomings of the provisions of Act II of 1864. That Act makes the defaulter's person and his personal and real property liable to be proceeded against for arrears of revenue, but it is entirely silent as to whether moveable or immoveable property is to be proceeded against in the first instance, leaving this most important question to be determined at the discretion of the taluk or village officials—a discretion which is capable of great abuse

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either through sheer stupidity or motives of fraud. As the law now stands, for an arrear of 2 Rupees, land worth Rupees 200 may be brought to the hammer with perfect legality, notwithstanding that a couple of *chemboos* belonging to the defaulter would more than realize the amount due. We would therefore suggest that it be made a rule, never to be departed from, that in the first instance, the standing crops, next the personal goods of a defaulter be taken in satisfaction, and that not till both have been tried and found inadequate, the land should be proceeded against for the recovery of arrears of revenue.

The want of due publicity to the preliminary proceedings, which is almost always pleaded as an objection to sale for arrears, on appeals being preferred, is very often but too true. No doubt the intended sale of the land is advertized by publishing a notice in the District Gazette, and by affixing similar notices in one or two offices; but in remote parts the mass of the agricultural population being illiterate, it is not till the village drum is beaten and people begin to congregate, that the intelligence slowly reaches the villagers that a sale is about to take place; and then it is too late for any one interested in the land to tender the amount due and claim a suspension of the sale. The *locus penitentiæ* is past with "the evening of the day previous to that appointed for the sale." We fail to perceive the *raison d'etre* of this limitation. If it is intended by this to shut out all hope of mercy to the persistent defaulter after the day previous to the sale, it can always be successfully evaded as there is no prohibition either in the Act or in the departmental rules against a defaulter bidding for his own land on the day of sale, and he may safely out-bid the highest bidder, being sure that every pie of the sale proceeds, after discharging arrears and costs, will find its way back into his own pockets; while, on the other hand, persons other than the defaulter, who may have an interest in the property, are deprived of a most valuable, and perhaps the sole, opportunity of protecting their rights. We would, therefore, recommend that every facility be afforded for the redemption of the land up to the last stroke of the hammer, even until the final "once! twice!! thrice!!!" are pronounced; for who knows but that this act of grace which militates against no one's rights or privileges might prevent the bread being snatched out of the mouth of some helpless orphan or widow.

The sources of injustice will be still further diminished, and even the faintest possibility of the occurrence of "hard cases" removed, if the law were to make all revenue sales subject to incumbrances which may have accumulated on the property, *i.e.*, if it were to sell nothing more than the right, title, and interest of the defaulter; and if some limitation, say, a year or two at the utmost, be prescribed, after which the recovery of Government dues should be barred; for this will check dilatoriness and the accumulation of arrears; while at present, as the consequence of the principle that Government revenue may be recovered after any length of time, *bonâ fide* purchasers of property for full value are often made to smart for the negligence of some former proprietor of the land and for the *laches* of the revenue officers.

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HIGH COURT—MADRAS.

[*Full Bench.*]

MORGAN, C. J., AND HOLLOWAY AND INNES, J. J.

Breach in public channel—Suit against Collector to close—Right non-existent in ryots.

Certain ryots sued to compel the Collector to close a breach in the bank of a public channel by which water flowed first to their village and then to another village, urging that, when the water escaped through the breach, they did not receive all the water to which they were entitled.

HELD, *that there was no infraction of any legal right existing in the parties themselves, and that, therefore, it was not a case for granting an injunction.*

R. A. 90 *of* 1872.

Naraniah and eighty-five others *v.* Mr. Puckle, Collector of Tinnevelly, and ninety-one others.

THIS was a suit to close certain breaches in an irrigation channel which supplied plaintiffs' village. The suit (O. S. 8 of 1871) was filed in the Court of the Civil Judge of Tinnevelly, and came on for hearing before Mr. Francis Culling Carr, from whose judgment (delivered on 16th March 1872) the facts of the case fully appear.

"The plaintiffs in this case are the ryots of Alvarkurichi, whose lands are irrigated by a channel called Tenkal. This channel is supplied from the Gadana river; an anicut, called Chettikolum, damming up the water of the river and turning it down the channel. On the lower, or south-eastern, side of this anicut are two openings, through which some of the water goes into the river. The plaintiffs assert their right to have these openings closed, so as to send more water down the Tenkal: and there has been a dispute about this between them and the ryots of Ambur, whose lands are watered by channels fed from anicuts lower down the river, the channel next below the Tenkal being called the Perunkal. The plaintiffs assert that whenever these openings were made by the river it has been their custom to close them, and that their right to do so was not disputed till 1868-69. The dispute was brought before the Revenue authorities, and the Sub-Collector sanctioned their being closed: which order was set aside by the then Collector, Mr. Longley, upon which the plaintiffs appealed to the Board of Revenue, who referred the matter back to the Collector for report. Mr. Longley thereupon reported that the openings were breaches, and not natural openings, but that as they had been open for fourteen years, he proposed to leave the aggrieved parties to civil action. Upon which the Board directed a further inquiry by the Collector with the Superintending Engineer, in order to settle officially what was the character of the openings and their exact effect upon the area irrigated by the channels; and the Collector was directed, if the openings were injurious to the Government or dangerous to the channel, to have them closed, although they might have been left open for the last fourteen years: but if not, he was to leave these disputants to civil action. On January 7, 1871, Mr. Puckle, who had then returned to the district, as Collector, examined the spot, and finding both of the openings closed, and being of opinion that one at least should not so remain closed, directed it to be opened, leaving the other a matter for further consideration. These proceedings were approved of, upon Mr. Puckle's report, by the Board of Revenue; that is, they declined to interfere. It is in consequence of this proceeding on the part of Mr. Puckle that the plaintiffs (the Alvarkurichi people) have brought this suit against the Collector and the ryots of Ambur, seeking to have Mr. Puckle's order set aside, and to establish their right to have these openings permanently closed.

These proceedings which constitute the cause of action are fully set forth in the Collector's Exhibits III and IV, which are copies of the reports from the Collector's office, and the orders thereon of the Board of Revenue. The Collector, in his written statement, as first defendant, maintains that his orders have been equitable, and fairly deal with the claims of both parties in the matter, and supports the views detailed in Collector's Exhibit IV. The other defendants, who are the Ambur ryots, maintain their right to have both these openings left open, though apparently they would rest satisfied with the arrangement now made by the Collector, by which one opening was to be made permanent and the other was closed. The following issues were settled:—I. Whether the plaintiffs are entitled to stop the water flowing out of the outlet marked A in the plaintiffs' plan, or whether the defendants, ryots of Ambur, have the right of having such outlet kept open. II. Whether the proposed arrangement by the Collector sufficiently provides for the rights of both parties. III. Whether the defendants, ryots of Ambur, are entitled to have both the openings kept open, or whether the plaintiffs are entitled always to keep the second opening closed after the building of brick opening above referred to.

The principal witnesses are Mr. Rundall, the Executive Engineer (first witness for plaintiff), Mr. Wiffen, the Sub-Engineer (second witness for plaintiff), Subramania Pillay (the first witness for the defendants), and Mr. Puckle, the Collector, who was examined as eighth witness for the defendants. From their

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evidence, and from the exhibits, it is clear that there was no dispute at all about these openings before 1868. The plaintiff has filed certain documents showing that there were breaches in the channel before that date which had been reported upon, estimated for, and repaired; but beyond that they were part of the anicut, there is nothing to connect them with these openings while the measurements of the breaches themselves demonstrate almost positively that they were breaches in the channel bank lower down, probably near the place where the breach is marked in the large plan, Exhibit I, which is a true copy of the Department of Public Works' sketch of the locality. The evidence as to the nature of the openings is clear enough. They are passages made by the stream over a rock, or "paray," which probably at the time of the construction of the anicut was covered all along by a hard gravel. Before the anicut existed, the river must have flowed over the rock on which the anicut is built, leaving (except in extraordinary freshes) the now disputed spots high and dry: when constructed it was probably thought that this strong gravel on the top of the rock would not yield to the water, but the water, being by the anicut dammed up, was continually thrown against this bank, and so gradually has forced its way through the gravelly soil down to the hard rock. The openings having got down to the hard rock, cannot, as Mr. Puckle says, deepen, and owing to the nature of the hard gravelly soil at the sides, the widening, by the erosion of the water, will be a very slow process. Mr. Wiffen, the Sub-Engineer, who has lately come to this range, was of opinion that the opening was gradually deepening; but considering that it has now got down to the hard primary rock on which the anicut itself is built, there can be no fear of the deepening being of any perceptible increase in the course of years, and Mr. Rundall says that "most of the other anicuts have wing walls, which this Chettycolum anicut has not; it is more a revenue than a professional question as to whether these openings should be closed. They are not injurious to the safety of the work; if they were, I should say, on professional grounds, they should be closed." There can also be no doubt that these openings did not exist at the time of the construction of the anicut, since, as has before been remarked, it is only since the anicut was made that the water could, except in heavy floods, have reached such a height, and, therefore, as it is the unanimous opinion of all impartial persons, who have seen the openings, that they are made naturally by the action of water, they could only have been made after the water reached there, *i. e.*, after the construction of the anicut, and as Mr. Wiffen says, "It never could have been the intention of the Engineer who built the anicut to have these openings; had he wished for a vent he would have built it and placed shutters so as to regulate it. Before the building of the anicut the water would not have flowed over this rock. The anicut is very old, built long before the English had the country." It is, therefore, perfectly clear that these openings are naturally made, forced by the water, subsequent to the building of the anicut, and not intended to be there when the channel was made; so, in order to make the channel as effective as it was when perfect, there is no doubt that these openings should be closed. It remains to consider whether it is necessary to have these openings left unclosed in order to give the ryots, whose sources of irrigation lie below this Chettycolum anicut, a fair supply of water, and whether this can be done without unduly injuring the rights of those who depend upon the Tenkal; or whether, though the openings were made subsequent to the building of the anicut, there has been nevertheless, for many years past, up to the time of the dispute, an uninterrupted user of these openings, which would constitute a right on the part of the lower cultivators to have them permanently. Now, with regard to the first of these points, we have the evidence of Mr. Wiffen, that it is in his opinion necessary for the efficiency of the Tenkal to have these openings closed. His opinion is entitled to some weight, for he has taken the levels: he says that the surface of the rock which forms the basement of these openings is 9¼ inches below the crest or crown of the anicut. There is no doubt that he greatly overrates the volume of water which passes over the rock, for he says, "When the channel is only quarter full, nothing goes over the rock; but if it is half full, water goes over. When the channel is quite full it is level with the crown of the anicut, so that, between full and half full, there is only a difference of 9¼ inches. The channel is here very deep." And yet he adds, "I should say that the amount of water going over the rock now was about the same as went down the channel." Now, considering the depth of the channel and the difference of level between the crest of the anicut and the rock, it is manifest that this is an exaggeration; in fact, it is clear that owing to his desire to have these openings closed, Mr. Wiffen's evidence is more that of a partisan than an unbiassed professional opinion. For instance, he speaks of the rock being soft and friable; we learn however from others that it is hard rock: he says the rock is worn away very much since the breach; whereas it is clear from the Collector's deposition as well as from others that the rock will not yield to water; and his opinion with regard to the effect of the openings upon the irrigation of the two channels is of no use, being only derived, as he says, from the Tahsil-

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dar. As a contrast to this evidence we have that of the Collector who takes the opposite view of the case to Mr. Wiffen; he says, "If the two openings were closed, I cannot say, whether or no, the Ambur people would be able to raise a single crop. If there was no percolation, they would have no water at all; but it struck me that the two openings were more than the requirements of the case."

When, however, the levels taken by Mr. Wiffen were given to him, the Collector said that in that case the necessity of the openings was not so great as he had stated.

I accordingly sent for the Jummabundy accounts of the last four fuslies, in order to see what was the state of the irrigation under the two channels, viz., the Tenkal and that next below it, the Perunkal. These extracts are filed as Collector's Exhibits V and VI. From these it appears that there was, during these four years, full cultivation according to the ayacut, and even above it under each of the channels; and there had been fusul jastee, *i.e.*, part of the single crop land had yielded a double crop under each. Under the Tenkal, where the single crop lands are about 434 acres, according to the ayacut, there had been,

in Fusly 1277—447 acres cultivated with second crop.

Do.	1278—454	do.
Do.	1279—491	do.
and in	1280—462	do.

Under the Perunkal, there are, according to the ayacut, 139 acres of single crop land, and of these,

in Fusly 1277—75 acres had been cultivated with a double crop.

Do.	1278—76	do.
Do.	1279—78	do.
and in	1280—80	do.

Now, it appears, that during these years the water was flowing through the openings at first, viz., in September 1868, as is clearly shown by the reports D, E, F: then that the openings were closed, subsequently that they were re-opened, and again closed as they were when seen in January 1871, and since then one has been closed and one open. Now, if the effect were as great as Mr. Puckle anticipated, these alterations would have had a very marked effect upon the amount of extra cultivation even if it did not affect the regular ayacut amount of cultivation; but on the contrary, we see that the cultivation throughout these fuslies has been almost steadily, though slightly, increasing in both villages. The reason of this is discovered by the statement that about two hundred yards down the channel there is, as seen in the plan Exhibit I, and also in the Survey Map of the locality, (extracted by the Deputy Superintendent of the Revenue Survey from the Original Survey Map, for the sake of, and at the request of, the Court), a surplus calingulah upwards of five hundred links in extent, which, as Mr. Wiffen says, has an uneven surface, but the average level of which is about 10¼ inches below the crest of the anicut, and, therefore, only about an inch below that of the disputed rock. Considering, therefore, that the channel is slow, the water which was just beginning to overflow the disputed rock would also begin to overflow the surplus calingulah. He accordingly says it would not be much use to the Tenkal to close up the disputed openings unless the surplus calingulah were raised to a level with the crest of the anicut. After passing the Chettycolum anicut, it is seen from the Survey Map that the Gadana takes a sudden turn eastward and runs parallel to the Tenkal for a considerable distance, separated by a piece of land about forty yards wide on an average, with a gap at the surplus calingulah. Consequently, it is very manifest that these disputed gaps, which have been made the means of a four years' quarrel, and have occupied much of the time of officers in the Revenue, Public Works, and Judicial Departments, are really not of much consequence one way or the other. At worst the rock is only nine inches below the Chettycolum anicut, and only an inch or two above the level of the surplus calingulah two hundred yards lower down the channel, and the opening or closing of them is shown practically to have very little effect. It has, however, been seen as stated above that they are breaches not in existence before the anicut, and not intended by the constructers of that work; and being, therefore, breaches, though the term Tambogi (a natural way by which water goes of itself) is not inapplicable; the Alvarkurichi people whose interests are involved in the Tenkal are at liberty to close them and to keep them closed, and as long as the crest of the Chettykolum anicut and that of the surplus calingulah are not raised, the Ambur people will not have any cause of complaint at all. There is nothing to show that prior to 1868, when this dispute arose, the openings had existed; so the Ambur people cannot claim the right of long and uninterrupted user; and there can be no doubt that no anicut is made with a crest higher than the adjoining banks, the very essence of its existence being that it should turn off into the adjoining channel all the water, except that which percolates, until the river rises above the crest of the anicut. The river below an anicut must always depend upon what flows over surplus calingulahs, freshes over the anicut, surplus drainage from higher irrigation, and local drainage, besides percolating water and springs in the river bed. Every breach in the adjoining bank, like these openings, must be faults in

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the work, which should be repaired. If those lower down the stream suffer a diminution of what they are entitled to, the anicut or calingulah would have to be lowered, but they cannot look to a vague opening in a bank by which they may get an ever increasing supply. There is, I believe, no reason to believe with the Collector that the Ambur people will really suffer by the filling up of these openings; for there is no wish expressed on the part of the Alvarkurichi people to raise their anicut or their surplus calingulah, either of which would, no doubt, infringe upon the vested rights of others. I therefore find upon *the first issue*, that the plaintiffs are entitled to stop the water flowing over the opening on the rock south-east of the Chettycolum anicut, and that the Ambur ryots have no right of having such outlet kept open; *upon the second issue*, that the arrangement by the Collector does not sufficiently provide for the rights of both parties, inasmuch as he ordered one opening to be left unclosed; and *upon the third issue*, that the Alvarkurichi people are entitled to keep both openings closed. Under the circumstances, and seeing that this has been a village feud built upon a trifle without any great grievance either way, each party will bear their own costs in this suit."

From this decision two only of the defendants appealed, on the ground that the Civil Court had no jurisdiction to entertain this suit which ought to have been instituted in a Munsiff's Court; that the closing of the works in dispute would injure defendants materially, while allowing them to remain open would work no appreciable injury to plaintiffs; and that defendants had, by long enjoyment, acquired an easement to the flow of water through the openings in dispute; and that plaintiffs' suit was barred by the Statute of Limitation.

Hon'ble *Sunjiva Row* for appellants.

Scharlieb for respondents, pointed out that the Collector, on the part of Government, acquiesced in the decree and did not appeal; and that it was the Collector's act that was in issue, so that if anybody had a right to appeal it was the Collector alone, who did not appeal, but on the contrary stated his willingness to obey the decree of the Court. In support of the judgment, respondents' counsel urged that the breaches complained of were evidently caused by the action of the water and were no part of the design of the anicut, nor of the supply channel which was to carry water to the Alvarkurichi fields; that there was actually a calingulah $10\frac{1}{2}$ inches below the crest of the anicut, which abundantly supplied the villages below; that the evidence clearly showed that the closing of these breaches had no injurious effect on the cultivation of lands in the village of Ambur; that defendants could not prove *user;* that 89 out of 91 defendants acquiesced with the Collector of the district in the judgment; that there was an anicut above which actually carried off water to the Ambur lands before plaintiffs' village could get any supply; and that the High Court had held in *Mutunallapa Reddy* v. *Ramasawmy Naick and three others* (II, *Madras Revenue Register*, p. 31) that the mere invasion of a right was a sufficient ground of action.

The appeal was originally heard by their Lordships the Chief Justice and Mr. Justice Innes, on the 13th December 1872; but as they differed in opinion, the appeal was reposted for argument on the 28th January 1873, before a Full Bench, consisting of the Chief Justice, and Holloway and Innes, J. J. On this occasion Mr. Justice Holloway threw out that the right claimed appertained to the Crown; and then the following oral judgments were delivered:—

Per Morgan, C. J.—This is a case in which the contending parties are ryots having really no substantial rights to contest. It cannot be pretended that either party has any property in the channel. The form of the Judge's decree assumes that the plaintiffs have a right to take some action in the matter. It comes to this; that the relief he has given to the plaintiffs has no footing on which to stand; for the property in the channel is that of Government, and the plaintiffs come into Court without any rights in themselves. Whether they could proceed as against Government by right of user is very doubtful. Here the construction is peculiar. Government contemplate a natural embankment for the purpose of diverting the water. They did not contemplate that by raising this natural embankment, any charge would be entailed on them in the event of any natural action of the water affecting the artificial superstructure. What the law would be as to throwing this burden on the Government, it is not for us to say. This decree, which proceeds on some right in the parties themselves which they do not possess, cannot be maintained, and must, therefore, be reversed.

Per Holloway, J.—I agree. The question whether the right claimed as between the parties can be exercised at all is not the question to be considered. The question to be inquired into is, can any right, as against Government, be acquired by any mechanical action that has taken place? No right can be acquired by any contingency that has arisen out of a natural state of things. The right claimed cannot be maintained as against Government. This decree must be reversed, even if the above view is not correct. An injunction cannot be granted even after successive actions. Here the enjoyment set up was very shadowy; and even if any legal rights did exist, this decree ought to be reversed with costs.

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The following was the written

Judgment:—28th January 1873.

This is manifestly not a case for an injunction. It is by no means, of course, that this should be granted even if there is an infraction of a legal right. Here the findings of the Civil Judge, fully borne out by the evidence, are that no damage has occurred, and that there is no reasonable ground to believe that any will occur.

On the hypothesis that a prescriptive right had been acquired, it could only be to the existence of the artificial structure with the natural rock and gravel in its natural condition. We may conjecture that the artificial structure was not extended, because it was believed that the rock and gravel would accomplish the same end; but this manifestly cannot affect the question.

It being clearly no case for an injunction, we reverse the decree of the Civil Judge. There will be no costs throughout.

HER MAJESTY'S PRIVY COUNCIL.

[Bengal Cases.]

Purchase at auction sale—Claimant under merasi lease—No possession.

A purchased an estate at a sale in execution of decree, and was opposed by two merasi lease-holders who claimed under a former zemindar, and urged that all A had purchased was the zemindar's right subject to the leases. It was found that the leases had never been produced in any way from the time they were granted in 1806 *until A sought to obtain possession in* 1854.

Held, *that in order to prove the authenticity of the leases, it was necessary to show possession which the lease-holders did not prove.*

Judgment of the Lords of the Judicial Committee of the Privy Council on the appeal of Bisheshur Buttacharjee and another *v.* George Henry Lamb and others, from the High Court of Judicature at Fort William in Bengal, delivered 7th November 1873.

Present.

Sir James W. Colvile.
Sir Barnes Peacock.
Sir Montague E. Smith.
Sir Robert P. Collier.

Sir Lawrence Peel.

This is a suit brought as far back as the 1st of July 1853 to recover certain taluks or zemindaries from a person who claims under and stands in the position of a purchaser at a sale in execution of a decree against the zemindar. When the plaintiff took measures to get into possession of the estates which he had purchased, two leases, called merasi leases, were set up against him; and it was contended that, having purchased only the rights of the zemindar, he had purchased subject to those two leases, and that he was entitled only to the rents under them. The rents amounted to about Rupees 17 more than the Government revenue; so that the plaintiff, if the leases are upheld, instead of purchasing, as he expected, the zemindaries free from incumbrances, purchased the value of about Rupees 17 in excess of the Government revenue.

Their lordships will take one of those documents as an example. On the face of it, it appears to be very suspicious. Chunder Narain Ghose was the zemindar; he states in the puttah that having purchased the taluk, Gooroo Dass Roy, and having fixed the annual rent at Rupees 301, "you being my granddaughter—"my son's daughter—and I having received "15 gold mohurs of the value of Rupees 20 "each from you, which were received as joa-"took at the ceremony of Unnoprashon, do "grant the same taluk to you by merasi "lease;" so that he is to be supposed by this document to have sold to his granddaughter for 15 gold mohurs, which she received at a certain religious ceremony, a merasi lease at the rent of Rupees 301, which was only 13 Rupees more than the Government revenue which he had to pay. That that is the value is admitted by the defendant in the answer. Indeed, it has not been disputed.

Now, the judges have found that this document had never seen the light from the time when it was granted on the 11th of Srabun 1213 (the year 1806), up to the time when the purchaser under the execution sought to get into possession of the zemindary in 1854; and that from 1806 to 1854 no public notice, no mention, had ever been made of this lease. When an execution is put in, notice is given of the execution, and any persons claiming rights in the property seized under it have a right to set them up. No claim of that sort was made in the present case. One of the defendants is the son of the granddaughter,

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and claims to be entitled to his mother's right, but he never set it up when the execution was put in.

Now, in order to satisfy the Court that such a document as this was a valid document, intended to operate as a merasi tenure, it would be important to prove that possession had accompanied it. The document itself was not proved, because it was more than thirty years old, and there were no witnesses to prove it. It was, therefore, necessary, in order to establish its authenticity, to show that possession had accompanied it. In order to corroborate the lease, another document was put in which is called a bundobust, signed by the sons of the grandfather, who were the zemindars in 1817. Now this is an unusual document, and it does not appear for what reason it was executed. If the merasi tenure was a valid one, the granddaughter had the right to the lease, at a rent of Rupees 301, payable yearly. The bundobust is signed by the representatives of the zemindar, and by it they make the rent of Rupees 301 (which in the puttah was payable yearly) payable by six monthly instalments. What reason could there have been, if the granddaughter had got the tenure, at a rent of Rupees 301, payable yearly, for her agreeing to pay it by six monthly instalments, or for the zemindar's granting her this document making it payable by instalments? One can hardly see what the object of this could have been, except for the purpose of making it appear that the lease was treated by the representatives of the zemindar as a genuine document, and thus giving it the appearance of authenticity.

The question then turns upon the point as to whether possession was taken under the document. The Principal Sudr Ameen has found that there was no possession taken under it. He says that the few jumma wasil bakees, chittahs, cabooleuts, and evidence of ryots and low caste servants which had been adduced by the defendants were all unreliable, the documents being prepared, and the witnesses tutored.

The judges of the High Court agreed with the Principal Sudr Ameen as to the absence of possession. They said, "Nothing but the most "complete and satisfactory evidence of good "faith, coupled with reasons for the previous "absence of all mention, could enable the "defendants to get over so strong and signifi- "cant a circumstance. Not once in half a "century do these merasidars appear in Court, "not once have they been sued for rent, not "once have they found occasion to assert or to "protect their tenure until it is brought for- "ward as the last of a series of measures to "prevent the taluks passing into the hands of "the purchasers." Then they say, "In Chun- "der Kant's case there is a bundobust paper "of the 25th Maugh 1224, which is said to be "a confirmation of his meras, but neither the "authenticity nor the occasion of this docu- "ment is sufficiently made out." Here, then, are two concurrent findings of the lower Courts upon the question of fact, whether possession did accompany the documents; and both Courts have found distinctly that the possession was not in accordance with the documents; that the zemindars remained in possession from the time when those meras leases were alleged to have been granted, up to the time when the purchaser sought to obtain possession under the sale in execution. But then certain mouzah-waree papers were produced. The Principal Sudr Ameen made certain observations with regard to those papers. The Judges of the High Court, speaking of them, say, "They produce what are called "quinquennial or mouzah-waree papers from "the Collector's office of the Bengalee year "1217, in which the meras tenures are spe- "cified. And in the case of Jogul Kishore a "register book is produced, in which these "papers are referred to. But the appellants "fail to show for what reason these mouzah- "waree papers filed by the zemindar in the "collectorate, should contain a specification of "under-tenures with which the Collector had "no concern; and as to the so-called register "book, we are not informed under what regula- "tion or rule of practice it was kept, nor have "the defendants taken the evidence of the "collectorate officers to throw light on the "subject." Now it is contended that the judges were wrong in making these remarks; but the fact of the judges making a mistake, even if they did make a mistake with reference to the mouzah-waree papers, does not affect the other part of their finding, viz., that the leases had never been made public; that they had never seen the light, and that possession had never accompanied them. Even if they did make a mistake with regard to the mouzah-waree papers, it would not be a sufficient reason for their lordships reversing the finding upon the other question of fact. One of the judges who gave judgment, upon a motion for review of judgment, says, "The sole ground taken, and ably "argued at the hearing by Mr. Plowden was, "that the Court had come to an erroneous "conclusion with respect to the mouzah-waree "papers, which had been relied on to prove the "existence of the taluks. I am now inclined "to believe that the papers in question though "not precisely in the form prescribed by the "Regulation, were nevertheless prepared in "accordance with the instructions of the Board "of Revenue." Therefore he admits they were mistaken, but he says, "Even if this be fully "conceded, the fact will not out-weigh the "other considerations which led us to dis- "believe the real existence at the present time

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"of the tenures in dispute. And with that "feeling of disbelief upon our minds, produced "by a review of the whole evidence, we certainly could not reverse the judgment of the "Court below, simply because it had assigned "reasons for its judgment which did not appear "to be extremely cogent."

The Principal Sudr Ameen's judgment is also objected to. It is said that he has given certain reasons which are not borne out by the evidence, and it must be admitted that there are mistakes in the judgments both of the Principal Sudr Ameen and of the High Court, and that they are perhaps not so satisfactory as they might have been; but the question is, whether their lordships are satisfied that they have come to a wrong conclusion upon the evidence.

Now, so far from that being the case, their lordships are of opinion that if they had been reviewing the judgment of the Principal Sudr Ameen they would have arrived at the same conclusion as the High Court did, that the documents were not genuine documents intended to operate in the way in which they professed to operate.

Under those circumstances, their lordships are of opinion that the rule by which they are usually guided in not overturning the decision, on a point of fact, of the lower Court, when that decision has been affirmed by the High Court, must apply in the present instance.

They, therefore, will humbly advise Her Majesty that the decision of the High Court be affirmed, together with the costs of this appeal.

Adjacent properties—Branches of river—Lease.

A and B were neighbouring proprietors, their lands being divided by a stream. This stream however divided and flowed in two branches. A contended that the intervening land belonged to him, and based his claim on a gantheedaree lease he held of Nazir Ally Khan.

HELD, *that A could not be entitled to more than Nazir Ally Khan possessed at the time of the grant, and that he had failed to prove that the land between the branches belonged to Nazir Ally Khan.*

Judgment of the Lords of the Judicial Committee of the Privy Council on the appeal of Lewis Tiery now Belchambers v. Kristodhun Bose and others, from the High Court of Judicature at Fort William in Bengal, delivered 22nd November 1873.

Present.

SIR JAMES W. COLVILE.
SIR BARNES PEACOCK.
SIR MONTAGUE E. SMITH.
SIR ROBERT P. COLLIER.

SIR LAWRENCE PEEL.

IN this case the plaintiff was the possessor, under a gantheedaree lease, of a portion of land designated as lot 100 in the Soonderbuns. The defendant was the possessor, under a grant from the Government, of lot 104, the northern boundary of which was admitted to be identical with the southern boundary of lot 100. The parties have died since this suit was disposed of, and are now represented by others, but the case may be treated as if the original parties were the litigants. The plaintiff sought by a suit in the nature of an ejectment to dispossess the defendant from a large tract of land which the defendant had been in possession of for some years before the suit, and a portion of which he had reclaimed from the jungle.

The question was one of boundary, and that question may be shortly stated thus: It was agreed on both sides that the boundary between the two lots on the northern side of the one, and the southern side of the other, was a khal, called the Kankrea Khal; and it was further agreed that a watercourse flowing into or out of a stream, which was admitted to be the eastern boundary of both lots, was for some distance this same Kankrea Khal. But, at a point a mile or somewhat more from the eastern boundary, this Kankrea Khal divided itself into two branches, the one flowing to the westward with an inclination to the north, the other in a south-westerly direction; both these branches ultimately finding their way into a stream called the Kolooargung, which was admitted to be the western boundary of the two lots. The plaintiff sought to recover possession of the intermediate land between the northern and the southern branches, he contending that the southern branch was the Kankrea Khal, properly so called, the defendant contending that the northern branch was the Kankrea Khal, properly so called.

The land in dispute is stated by the plaintiff to be upwards of 8,000 beeghas, but it does not appear ever to have been accurately measured or surveyed. The plaintiff, on whom the burden of proving his title rested, was content to put in his gantheedaree lease, which was granted by Nazir Ally Khan. He attempted no proof of the title of Nazir Ally Khan, nor did he show on what terms, or by what description of boundaries or otherwise, this lot had been originally granted by the Government. Strictly speaking, he proved no title to

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more than he showed Nazir Ally Khân to have been in possession of at the time of the lease to him. The question of possession therefore, in their lordships' opinion, becomes very material.

It appears to their lordships, upon a review of the evidence, that the defendant, Mr. Tiery, had been, before the date of the gantheedaree lease to the plaintiff, which was the 27th of December 1853, in possession of the disputed land; and further, that he had reclaimed or begun to reclaim some portions of that disputed land, those portions immediately south of the northern boundary which he contended for. It further appeared, that the plaintiff at the time when he took this gantheedaree lease was not only well aware of the possession and reclamations of the defendant, but that he was the defendant's servant, and was actually assisting in making these clearances, from which he now seeks to dispossess his former master. It further appeared that the plaintiff, before he took this gantheedaree lease at the end of 1853, had been in possession of some portions of lot 100, as what are called chucks, and that he was in possession of one chuck, called Chuck Bugchur, which their lordships agree with the Zillah Judge must be taken upon his own showing to be the southernmost part of lot 100. It therefore becomes material to ascertain where this lot was situated, and their lordships have come to the conclusion, upon the evidence, that this lot was situated immediately northward of the line which the defendant claims as his boundary, a situation consistent with the case of the defendant, and that it was not situated immediately to the north of the south line contended for by the plaintiff, which it should have been if the case of the plaintiff is correct. The situation of his lot therefore appears to their lordships one material circumstance, at all events, in the determination of this case. In this case there have been three surveys, two by a Mr. Joseph and by a Mr. Smith, respectively, in the year 1856. They are not very intelligible, owing, as it appears to their lordships, to various misprints; and they may observe that this record has been printed in India with scandalous negligence; but it sufficiently appears in their lordships' opinion that both these gentlemen substantially reported in favour of the boundary contended for by the defendants. A subsequent survey in 1857 was made by Mr. Gomes, the Government surveyor, who, acting chiefly, as it appears, upon a map or a field book which had been prepared by a Captain Prinsep sometime before (it does not appear precisely when), came to the conclusion that the southern boundary contended for by the plaintiff was the boundary. It should be observed that Mr. Gomes went upon the land twice, and on each occasion he made a map. On the first occasion, in 1854, his attention was directed merely to the amount of land cultivated and not to the question of boundary; and, oddly enough, his map of 1854 is put in by the plaintiff. On the second occasion, in 1857, he went for the purpose of ascertaining the boundary, and the map which he made on that occasion is not put in by the plaintiff. As far as would appear from all three reports, the northern channel was at the time of these surveys, and their lordships are disposed to infer at the time of the granting of the gantheedaree lease, navigable and open all the way, whereas the southern channel does not appear to have been open to boats throughout its whole course. It is, indeed, suggested on behalf of the plaintiff that at some former time the southern channel was the broader one, but of that he has given no proof. Both the grants, the grant to the plaintiff, in gantheedar tenure in 1853, and the grant to the defendant from the Government dated in 1854, refer to a certain map of Captain Hodges, (but it would appear very clearly to their lordships that although the date of the puttah was 1854, the defendant had been in actual possession for about a year and a half before that). The plaintiff did not put in that map in the Court below, but appears to have relied upon a map made by a Captain Smyth, which professes to be in great measure taken from the maps of Mr. Hodges, among others. Upon an inspection of that map, the Zillah Judge appears to have come to the conclusion that it favoured the contention of the defendant rather than that of the plaintiff; and the Zillah Judge, upon the whole evidence, came to the conclusion that the plaintiff had not sufficiently proved his case to entitle him to eject the defendant, and gave judgment for the defendant accordingly. Upon this an appeal was preferred to the High Court in Calcutta, whereupon this judgment was reversed.

It appears to their lordships that the High Court acted almost entirely upon the map of Captain Hodges, which was before the Court, although it had not been put in evidence in the Court below. That map has not been sent to England, and is not before their lordships. If the map of Captain Smyth is to be taken as an accurate copy of that map, their lordships do not agree with the High Court in supposing that that map is conclusive in favour of the defendant. But even assuming that the map on inspection would turn out wholly in favour of the defendant, it does not appear to their lordships that the reversal of the finding of the judge below solely or mainly upon this ground is satisfactory; for from the summary before given of the evidence, it appears to their lordships that there was a great deal of evidence in this case independently of that map far more in favour of the defendant than the plaintiff, and they are of opinion that upon all the circumstances and probabilities of the case the

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judge of the Zillah Court was justified in coming to the conclusion that the case of the plaintiff had not been established.

Their lordships may observe that the expediency of insisting on more strict proof on the part of the plaintiffs in ejectment is illustrated by this very case, in which an application has been made on the part of another party to become a party to this appeal on the ground that he had a paramount and prior title to the plaintiff in this very lot 100, a contention for which there would appear to be some ground. Of course their lordships do not give any opinion upon this matter, and it is scarcely necessary to say that their judgment in this case can only affect the parties to it, and cannot give any other persons any rights or impose upon them any liabilities.

Entertaining this view of the case, their lordships are of opinion that the judgment of the High Court should be reversed, that the judgment of the Zillah Court should be affirmed, and they will humbly advise Her Majesty to this effect; and they are of opinion that the defendant should have the costs in the litigation below and of this appeal.

[Bombay Case.]

Toda Giras Hak—Limitation—Moveable and immoveable.

A brought a suit against B to establish his right to a Toda Giras Hak *on B's inam village, and to recover arrears on it for seven years. B admitted the existence of the* hak, *but contended that he had the power to put an end to it; and further that A's suit was barred.*

The chief question raised, was whether a hak *could be defined as an interest "in immoveable property," and, therefore, governed by Clause* 12 *of Act XIV of* 1859.

Held, *that a* Toda Giras Hak *was an interest in immoveable property; that the word* "immoveable" *was used by the Legislature as something less technical than* "real;" *and that the term immoveable property comprehends certainly all that would be real property in English law and possibly something more.*

Judgment of the Lords of the Judicial Committee of the Privy Council on the appeal of Maharana Futtehsangji Jaswantsangji *v.* Dessai Kullianraiji Hekoomutraiji, from the High Court of Judicature at Bombay, delivered 4th December 1873.

Present.

Sir James W. Colvile.
Sir Barnes Peacock.
Sir Montague Smith.
Sir Robert P. Collier.

Sir Lawrence Peel.

The suit which has given rise to this appeal was brought by the appellant in January 1865, against the respondent, to establish the right of the former to a Toda Giras Hak upon the inam village of the latter, and to recover the arrears due in respect of that hak, for the seven years preceding the commencement of the suit. The annual amount alleged to be payable by the respondent to the appellant is 501 Rupees; though it may be questionable on the evidence whether this sum is the gross amount of the hak, or the net balance after deducting certain small payments and allowances to other persons which are entered in the accounts.

The respondent admitted, as his father in other proceedings had admitted, the existence of the hak, and that it had been paid by the inamdars of the village up to the Samvat year 1914 (corresponding with 1857-58); but contended that his father had then properly exercised a right to put an end to it; and, further, that the present suit was barred by the law of limitation.

The issues settled are at page 20 of the Record; but the only one which is to be considered on this appeal is, whether the claim is within the appropriate period of limitation or not. Of the remaining issues, one, which is no longer treated as material, was disposed of in the appellant's favour, and the others have not been tried.

The substantial question considered in the Court below was, whether the suit, being one for the recovery of an "interest in immoveable property," fell within the 12th, or was to be governed by the 16th, Clause of the 1st Section of Act XIV of 1859. In the former case, the period of limitation would be twelve years, and the suit would be brought in time; in the latter case, the period of limitation would be only six years, and the suit would be barred.

The determination of this question involves the consideration of the nature of a Toda Giras Hak. A good deal of learning on this subject is to be found in the case of *The Collector of Surat* v. *Pestonjee Rutonjee*, II, Morris's Cases in the Sudr Dewanny Udalut, of Bombay (for 1855), p. 291, and in the case of *Sumbhoolall Girdhurlall* v. *The Collector of Surat*, VIII, Moore's I. A., p. 1, to which their lordships have been referred. They do not think it necessary to go at any length into this. It is suffi-

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cient to state that these annual payments, although originally exacted by the Grasias from the village communities in certain territories in the west of India by violence and wrong, and in the nature of black mail, had, when those territories fell under British rule, acquired by long usage a quasi-legal character as customary annual payments; that as such they were recognized by the British Government, which took upon itself the payment of such of them as were previously payable by villages paying revenue, and left the liability to pay such of them as were payable by inam villages to fall on the inamdar. And since the decision of the before-mentioned case in the 8th volume of Moore, it cannot be questioned that the Toda Giras Haks of the former class constitute a recognized species of property capable of alienation, and of seizure and sale under an execution. How far that decision may govern the rights of an inamdar, and some of the questions raised by the untried issues in this suit, their lordships abstain from considering. For the purpose of determining the question of limitation, it must be assumed that the claim of the appellant, if not barred, has a legal foundation.

The question to which period of limitation these claims are subject has been the subject of several decisions in the Bombay Courts.

The earliest of these, being the case of *The Collector of Surat* v. *Tejoobawa Bhugwansungji*, which is set out at page 67 of the Record, does not materially affect the present question. When that suit was commenced, Act XIV of 1859 had not come into operation; and under the law then in force (the Bombay Regulation V of 1827) the claim was subject only to the twelve years' rule of limitation, whether a Toda Giras Hak was in the nature of moveable, or of immoveable property. It is true that the High Court, in delivering its judgment, intimated an opinion that, whatever might have been the original nature of that Toda Giras payment, its conversion into an annual payment out of the Government Treasury, not secured or chargeable on any particular lands, had deprived it of the character of immoveable property, if it ever possessed that character. But it is obvious that this dictum has no application to a Toda Giras Hak payable by an inamdar, in respect of which there has been no such conversion. The case of *Furushram Nurbheram* v. *Syud Hossein Wullud* which is set out at pages 69 and 72 of the Record, is, however, in point. There the question arose between the purchaser of the Grasia's interest in a Toda Giras Hak at an execution sale, and an inamdar; and the law of limitation to be applied was Act XIV of 1859. The Judge of Broach there held (and his decision was affirmed on appeal by the High Court) that the claim was clearly for a money payment, and that the case must be decided by the 16th Clause of the 1st Section of the Statute.

The authority of this last case has been recognized, and its ruling adopted by each of the three judgments now under appeal.

The other decisions of the High Court of Bombay which have been cited, are all distinguishable from the present.

That of *The Collector of Surat* v. *The Heiresses of Kirvabai*, II, Bombay High Court Reports, page 239, seems to their lordships to have no bearing upon the question before them. The only questions raised in it were whether a Toda Giras Hak was alienable, and whether, by reason of its falling within the definition of "land" contained in a particular statute (which it did not), the Court was deprived of jurisdiction. In the case of *Baratsangji* v. *Nuvanidaraya*, I, Bombay High Court Reports, page 186, as in that set forth at page 67 of the Record, the law of limitation to be applied was the Bombay Regulation V of 1827; and what the Court actually decided was, that the right to the desaigiri allowance claimed would be barred, unless the plaintiff could establish the receipt of a payment on account of it within twelve years. The Court, no doubt, described the allowance claimed as "in the nature of one charged upon, or payable out of land." But whether it were so or not was not a point in issue. Again, in *Raiji Manor's case*, reported in VI, Bombay High Court Reports, page 56, the Court, in ruling that the claim was barred by the six years' limitation, distinguished it from the last-mentioned case on the ground that it was a claim for a pagdi allowance, which was a mere money payment out of a desaigiri allowance, and not like the latter in any sense an interest in land. The same distinction may exist between a pagdi allowance and a Toda Giras Hak.

The case of *Krishnabhat Hiraganji*, reported in VI, Bombay High Court Reports, page 137, and that of *Purshotam Sidheshvar*, reported in IX, Bombay High Court Reports, page 99, both relate to hereditary offices and not to haks, and cannot, therefore, be regarded as directly in point, although the principles which they lay down for the construction of Act XIV of 1859 are important, and will have to be considered hereafter. It is, however, to be remarked that, in the latter case, Chief Justice Westropp, at the close of his able and elaborate judgment, expressed a strong doubt of the soundness of the decisions which had ruled that claims for Toda Giras Haks were subject to the six years' rule of limitation. This being the state of the authorities at Bombay, their lordships cannot think that there has been that long and consistent course of decisions which affords grounds for treating the question under

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consideration as concluded by authority, even in the Courts of India.

It has, however, been strongly urged on the part of the respondent that this appeal is to be determined by the authority of their lordships' recent decision in the case of *Desai Kullianrai Hakoomutrai* (the present respondent) and *The Government of Bombay*, XIV, Moore's I. A., p. 551. Their lordships cannot accede to this argument.

In the case so relied upon the question of limitation did not arise. It is, however, true that, in deciding it, the High Court of Bombay had held that the respondent had acquired a title, by positive prescription, to the hak which he claimed by force of the 1st Section of the Bombay Regulation V of 1827; and that their lordships, though they upheld the decree in favour of the respondent on other grounds, intimated that they were not satisfied either that the particular hak could properly be said to be "immoveable property" within the meaning of the Regulation, or that there had been such an enjoyment of it for thirty years without interruption, as would bring the right, if in the nature of immoveable property, within the operation of the Regulation. This was the expression of a doubt rather than a positive decision. Moreover, the hak then claimed differed widely from that which is the subject of the present suit. It was a money allowance for the sustentation of a palanquin, which had been granted by the then Native Power to an ancestor of the respondent, not as a necessary incident to the office of Desai, but as a reward for meritorious service, and was made payable by the native collector out of the general revenues of the Pergunnah of Broach received by him. As such it resembled the annuity granted by King Charles the Second out of the Barbadoes duties, which in the case of *The Earl of Stafford* v. *Buckley*, 2 Ves. Senr. p. 170, Lord Hardwicke held to be "a mere personal annuity, having no relation to lands and tenements, or partaking of the nature of a rent by any means." But however that may be, their lordships cannot treat the decision in the palki case as an authority on the present question, which they will now proceed to consider upon its merits.

The learned counsel for the appellants have argued, on the authority of the above-mentioned cases of *Krishnabhat Hiraganji* and *Purshotam Sidheshvar*, and particularly of the latter, that the construction of the Statute of Limitation must, in this particular case, be determined by the light of the Hindoo law.

According to the report of the latter case in IX, Bombay High Court Reports, the respondents had sued to recover from the appellants the amount of fees due to the holder of the hereditary office of village Joshi (or astrologer) for five years. This statement, their lordships conceive, must be taken to import that the right to hold the office was matter of contest between the parties; since it can hardly have been held that, because the hereditary office was in contemplation of the Hindoo law, of the nature of immoveable property, fees recoverable by the admitted holder of the office from persons whose horoscope he might have cast, fell within the same category. The case was referred to a Full Bench, partly in consequence of some difference of opinion between the two Judges who composed the Division Bench, and partly on account of a supposed inconsistency between the two decisions already cited from the 6th volume of the Bombay High Court Reports, which, nevertheless, seem to their lordships capable of standing together. The judgment of the Full Bench was given by Chief Justice Westropp. It fully upheld the decision in *Krishnabhat* v. *Kapabhat*, and affirmed the correctness of the rule there laid down for the interpretation of Act XIV of 1859, Section 1, Clause 12. The rule is shortly this, viz., that, inasmuch as the term "immoveable property" is not defined by the Act, it must, when the question concerns the rights of Hindoos, be taken to include whatever the Hindoo law classes as immoveable, although not such in the ordinary acceptation of the word. To the application of this rule within proper limits, their lordships see no objection. The question must, in every case, be whether the subject of the suit is in the nature of immoveable property, or of an interest in immoveable property; and if its nature and quality can be only determined by Hindoo law and usage, the Hindoo law may properly be invoked for that purpose. Thus, in the two cases on which the appellant relies, Hindoo texts were legitimately used to show that, in the contemplation of Hindoo law, hereditary offices in a Hindoo community, incapable of being held by any person not a Hindoo, were in the nature of immoveables. And those decisions receive additional support from the 1st Section of the Bombay Regulation V of 1827, which expressly declares hereditary offices to be immoveables, an enactment which, inasmuch as it relates only to the acquisition of a title by positive prescription, seems to be unaffected by Act XIV of 1859, and to stand unrepealed in the Presidency of Bombay.

The learned counsel for the appellant have, however, insisted on the authority of these decisions that a Toda Giras Hak must be held to be an interest in immoveable property, because, according to Hindoo law it would be "Nibandha." Their lordships, in dealing with this argument, prefer to use the Sanscrit word, inasmuch as they do not think that "corrody" is a very happy translation of it; "corrody" being a word of medieval origin, properly sig-

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nifying a peculiar right, viz., the grant by the royal or other founder of an abbey of certain allowances out of the revenues of the abbey in favour of a dependent or servant. (See Ducange, *in verbo:* Fitzherbert *De naturâ Brevium*, p. 229, writ *de corrodio habendo*).

Whether a Toda Giras Hak be "Nibandha" within the strict sense of that term, is, in their lordships' opinion, a question not free from doubt. The original text of Yajnyawalcya, which is the foundation of all the other authorities cited by Chief Justice Westropp, implies that the subject rendered by the word corrody in II, Colebrooke's Digest, Placitum xxxiv, is something created by Royal grant. This, too, is included in Professor Wilson's definition of "Nibandha." That the word in the subsequent glosses on Yajnyawalcya's text is used in a wider sense may be due to the want of precision, for which Hindoo commentators are remarkable. It is, however, unnecessary to consider this point, because their lordships are of opinion that the question whether a Toda Giras Hak is an interest in immoveable property within the meaning of Act XIV of 1859 is one which ought not to be determined by Hindoo law. It appears from the authorities cited in the case (reported in the 2nd volume of Morris's Reports) that the Grasias were sometimes Mahomedans, and therefore that the hak may, in its inception, have been held by a Mahomedan. It is certain that, as these haks now exist, they may pass to, and be held and enjoyed by Mahomedans, Parsees, or Christians; and their lordships think that the applicability of particular sections of this general Statute of Limitation must be determined by the nature of the thing sued for, and not by the status, race, character, or religion of the parties to the suit. The period of limitation within which the claim is barred must be fixed and uniform by whomsoever that claim is preferred or resisted.

The determination, therefore, of the present question depends, in their lordships' opinion, upon the general construction to be given to the terms "immoveable property" and "interest in immoveable property" as used by the Indian Legislature. Their lordships cannot think that the former term is identical with "lands or houses." They conceive that the word "immoveable" was used as something less technical than "real," and that the term "immoveable property" comprehends certainly all that would be real property according to English law, and possibly more. In some foreign systems of law in which the technical division of property is into moveables and immoveables, as, *e.g.*, the Civil Code of France, many things which the law of England would class as "incorporeal hereditaments" fall within the latter category.

Now, what is disclosed on the Record touching the nature of this hak?

The plaint claims it as "leviable upon the village Mouzah Kalam." The fair inference from the written statements of the respondent is, that the hak existed and was regularly paid by his father, as inamdar, up to the year 1857-58. The question raised by these statements as to the right of the respondent and his father to discontinue the payments is one to be determined, not upon the issue of limitation, but on the trial of the other issues settled in the cause. The evidence taken in the suit shows that the answer of Hukomutrai (the respondent's father) to a question addressed to him in 1856 by a native official, to the effect, whether there was any Toda Giras paid for the Maharana of Amud *on account of the village of Kalam* was, "There are payable Broach" 501 Rupees for the Toda of the said Rana; that the same Hukomutrai described the money paid by him on account of this hak, in his deposition of the 6th of November 1861, as "the money on account of Toda Giras leviable upon my inam village of Kalam," and, in his deposition of the 4th of April 1862, as "the annual amount of Toda Giras of my village of Mouzah Kalam;" and further, that the payments made were made out of the revenues of the village, and were so entered in the village accounts.

Taking this as the fair result of the evidence, and considering what has been ruled touching Toda Giras Haks in the case in the 8th Moore's Indian Appeals, and other decided cases, their lordships are of opinion that, whatever may have been the origin of the hak, it must be assumed to be now a right to receive an annual payment which has a legal foundation, and of which the enjoyment is hereditary; and that the liability to make the payment is not personal to the respondent, but one which attaches to the inamdar into whosoever hands the village may pass; or, in other words, that the hak is payable by the inamdar *vertute tenuræ*. This being so their lordships have come to the conclusion that the interest of the Hak-dar does possess the qualities both of immoveability, and of indefinite duration in a degree which, if the question depended on English law, would entitle it to the character of a freehold interest in or issuing out of real property (see 1, Cruise's Digest, p. 47, Plac. 10); that upon the general principles of construction applicable to an Indian Statute it must be held to be "an interest in immoveable property" within the meaning of Act XIV of 1859; and, accordingly, that the suit having been brought within twelve years after the date of the last payment, can be maintained.

This being their lordships' conclusion on the first and principal question argued, it is un-

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necessary for them to consider the second, viz.:—Whether, upon the principles ennunciated and enforced in such cases as *The Dean and Chapter of Ely* v. *Cash*, 15, M. and W.; *Grant* v. *Ellis*, 9, M. and W.; and *Owen* v. *De Beauvoir*, 16, M. and W., and 5 Exch., it ought to be held that, inasmuch as Act XIV of 1859 contains no express words to bar the right as well as the remedy, that Statute cannot have any effect on the appellant's claim, except that of preventing him from recovering more than the arrears for the six years next preceding the institution of the suit. Their lordships abstain from the consideration of this question the more willingly because it was never raised in the Courts below; because the pleadings in the suit, which is brought to establish the right as well as to recover the arrears, assumes that the whole claim is subject to the law of limitation; because there seems to be a considerable body of Indian authorities which support that assumption; and because the limitation applicable to claims to establish rights will, at no distant date, have to be determined by the more carefully-drawn Statute of Limitation of 1871, which is soon to supersede that of 1859.

On this appeal their lordships will humbly advise Her Majesty to reverse the decrees under appeal; to declare that the appellant's suit is not barred by the Statute of Limitations, but was brought within time; and to remand the cause for trial on its merits. Their lordships think that the appellant ought to have the costs of this appeal. The costs incurred in India by reason of the trial of the second issue should be dealt with by the Bombay High Court in the usual way on the final determination of the cause; the appellant receiving back the costs (if any) which he may have paid under any of the decrees reversed.

CIRCULAR ORDERS OF THE BOARD OF REVENUE.

No. XXII.

Standing No. 275-2.

Alterations in Forms of Registering Holdings.

Proceedings of the Board of Revenue, dated 2nd December 1873, *No.* 2,449.

G. O., 14th October 1873, No. 1,104.

The following alterations should be made in Forms 7 and 8 of Standing Circular No. 275:—

Form 7, Clause 1.—Omit the words "*all the rights of the present registered landholder in.*" After the word "*by*" in line three insert the words "*the present registered landholder.*"

Form No. 8.—In line 4 omit the words "*all the rights of the former landholder in.*" Omit also the words "*and it is further declared that the said* ——— *has succeeded to all rights and property of the former landholder in the said lands.*"

No. XXIII.

Standing No. 132-4.

Quarries on Government Lands.

Proceedings of the Board of Revenue, dated 10th December 1873, *No.* 2,519.

G. O., dated 17th October 1873, No. 1,125.

The quarrying of ordinary building stone from Government lands without the written permission of the Collector is prohibited. In licenses granted for the above purpose the right of Government to levy seigniorage after one month's notice must be distinctly reserved and acknowledged. The Collector will be at liberty to propose to the Government, through the Board of Revenue, the levy of a royalty in any case of real importance. Any right of taking stone for their own private use, hitherto exercised by villagers, should be continued to them without restriction in objectionable localities.

No. I.

Standing No. 390-3.

Returns to be submitted by Deputy Collectors in Charge of Salt.

Proceedings of the Board of Revenue, dated 13th January 1874, *No.* 48.

Deputy Collectors in charge of salt shall submit to the Collector weekly brief diaries recounting their proceedings in the administration of the Salt Department, and shall also forward to the Collector copies of all orders of the following kinds, simultaneously with the issue of the orders:—

(1.) For commencing or closing manufacture.

(2.) Regarding transfers of pans.

(3.) Temporary arrangements made for the cultivation of pans left waste by the holders.

(4.) Regarding transfers of, or leave to, officers above the grade of peon.

(5.) Regarding experiments for the production of good salt, or the mode of manufacture.

(6.) Authorizing the rejection and destruction of manufactured salt.

(7.) Orders of an unusual nature, and not falling within the category of routine proceedings.

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2. The prior sanction of the Collector must always be obtained for the assignment of new pans, or old pans to new holders.

3. All salt factories must be visited at least once a year by Collectors, Sub-Collectors, or Assistants during the manufacturing season.

No. II.

STANDING No. 230-2.

REFUND OF STAMPS—COLLECTORS ALONE COMPETENT TO REFUND.

Proceedings of the Board of Revenue, dated 14th January 1874, *No.* 55.

So much of the Board's Standing Order, No. 230 (paragraph 32), as refers to the destruction of damaged stamps by the Collector is modified as follows:—

* Whenever the Collector sanctions a refund or renewal of stamps in lieu of spoiled ones he shall then and there record his reasons for such sanction, and shall punch or mark the stamp in such a manner as to prevent its being again presented.

* Circular of Govt. of India, Financial Dept., No. 3,767, dated 23rd Oct. 1873, and G. O., dated 5th Nov. 1873, No. 1,238.

2. The stamp shall then be forwarded for destruction to the Superintendent of Stamps. The same course will be followed in the case of stamps damaged in store. Collectors will take measures to prevent stamp refunds being sanctioned by any officers but themselves in person, they alone being legally competent to give such sanction.

No. III.

STANDING No. 366-2.

PUBLIC AUCTION OF GOVERNMENT STATIONERY PROHIBITED.

Proceedings of the Board of Revenue, dated 17th January 1874, *No.* 75.

THE sale, by public auction, of Stationery supplied to the various Government offices is* prohibited. Damaged stationery should be returned to store when the quantity is at all large.

* G. O., dated 10th Dec. 1873, No. 1,391, communicated with Board's Proceedings, dated 20th December 1873, Miscellaneous No. 8,690.

No. IV.

STANDING No. 391-7.

LISTS OF PERSONS THROWN OUT OF EMPLOY.

Proceedings of the Board of Revenue, dated 22nd January 1874, *No.* 106.

A LIST of public servants thrown out of employment through no fault of their own will henceforward be published in the Gazette.

G. O., dated 12th December 1873, No. 1,410, communicated in Board's Proceedings, dated 17th Jany. 1874, Miscellaneous No. 310.

2. In filling up such vacancies as may occur in their offices, Collectors will appoint from this list, so far as may be consistent with the qualifications of those whose names appear therein and the claims of those already employed.

No. V.

STANDING No. 375-1.

CANCELLATION OF S. O. 375.

Proceedings of the Board of Revenue, dated 24th January 1874, *No.* 119.

STANDING Order No. 375 is cancelled with reference to Section 16 of Act No. X of 1873.

OFFICIAL PAPERS.

THERAPEUTIC ACTION OF CALCIC QUINOVINATE MANUFACTURED BY MR. BROUGHTON.

Proceedings of the Madras Government, Revenue Department, 2nd December 1873.

Read the following letter from Deputy Surgeon-General J. L. RANKING, Officiating Surgeon-General, Indian Medical Department, to D. F. CARMICHAEL, Esq., Secretary to Government, Revenue Department, Fort St. George, dated 16th September 1873, No. 351:—

IN submitting this report on the therapeutic action of Calcic Quinovinate in the treatment of fevers, dysentery, and diarrhœa, I have the honour to express regret at the delay in its transmission.

Proceedings of Government, Revenue Department, No. 1,202, of 12th July 1871.

2. The subjoined tabular statement shows that the drug was used in *one hundred* and *forty-four* cases. Its exhibition was successful

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in *seventy*, doubtful in *seven* and unsuccessful in *sixty-seven*.

Tabular Statement of the Results of trials of the therapeutic action of the Calcic Quinovinate, manufactured by J. Broughton, Esq., (from 31st January 1870 to 10th February 1873).

Diseases.	Number of Cases.	Average Quantity of the Drug administered in each Case.		Results.		
		Oz.	Grains.	Successful.	Unsuccessful.	Doubtful.
Intermittent fever ...	79	0	124 33/79	44	34	1
Simple continued fever ...	1	0	48	...	...	1
Febricula ...	8	0	98	5	3	...
Dysentery ...	35	0	69 29/35	12	22	1
" Chronic ...	2	3	91 1/2	2	...	...
Diarrhœa ...	19	0	49 3/19	7	8	4

3. In less than half of the cases, therefore, can the Calcic Quinovinate be credited with any remedial power, while in almost the same number it failed to bring about recovery.

4. Quinine, as a febrifuge and antiperiodic in intermittent and remittent fevers, and Ipecacuanha in dysentery have been by long experience proved to be medicines of much greater potency. The success of the Calcic Quinovinate cannot compare with that of their administration in the diseases in question.

5. As it is clearly a physician's duty to restore his patient to health as speedily as possible, he is bound to use those means that are best calculated to bring about this result. Acting on this principle, he must prefer resorting in the first instance to the employment of medicaments of proved efficacy, like Quinine and Ipecacuanha, to using one, like Calcic Quinovinate, which is as likely to fail as to succeed.

6. Still, the experiments which have been made show the drug in question to have some therapeutic action in those diseases for the treatment of which it has been recommended. And it is quite possible that Calcic Quinovinate may, in certain cases, prove a successful remedy, when Quinine in fevers and Ipecacuanha in dysentery may have failed. As a second resort it may be beneficial; as a first resort it is not justifiable.

7. In conclusion, I beg to forward, as an Appendix, extracts from the reports of the several medical officers who were called upon to try the Calcic Quinovinate.

Enclosure No. 1.

Appendix.

Extract from the Report of Surgeon-Major C. J. Rogers.

Native Infirmary, Madras.—" In the six cases of diarrhœa and dysentery treated, only two recovered.

" In fever the treatment appeared more successful: two recovered out of three treated."

Extract from the Report of Surgeon W. N. Chipperfield.

General Hospital, Madras.—" The results at which I have arrived are that the remedy may be found useful in cases of every chronic dysentery; that it is a slowly acting remedy, and requires to be long continued before its effects become manifested; that in the two instances in which I have found it beneficial, I had to combine opium with it; that as an astringent for ordinary diarrhœa it is useless; that I have not observed any febrifuge properties in the preparation; and that one great objection to its use is its being required to be given so frequently as every hour or two, and both day and night."

Extract from the Report of Surgeon-Major L. W. Stewart.

Secunderabad.—" To summarize and draw conclusions from these cases, I am of opinion that the Calcic Quinovinate is not at all equal as an antiperiodic to Quinine, but it would appear to possess only tonic properties, similar to most other vegetable bitters, *e.g.*, Chiretta, Calumba, &c.

" In cases of febricula, I consider the medicine might be employed with advantage, but not as an antiperiodic in the intermittent type of fever, or in acute dysentery. As far as my time has admitted after a careful consideration in the treatment of these and former cases of both ague and dysentery, with this medicine, I beg now respectfully to record the above as my opinion on the virtues of the Calcic Quinovinate."

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Extract from Report of Surgeon L. O. Nanney.

Secunderabad.—"The result of my experiments was not sufficiently encouraging to induce me to risk the employment of it in a severe case, nor could I conscientiously attempt its use in dysentery, or peril life by the use of a drug which so insufficiently fulfilled the claims that had been advanced for it when I had reliable remedies at hand.

"From my brief experience of the Calcic Quinovinate, I doubt the possibility of its substitution for Ipecacuanha. With regard to its use as a substitute for Quinine, I do not think more efficacy can be claimed for it than that of a tonic of the mildest description, in which form the tediousness of its preparation would preclude its being largely employed.

"In *three* cases out of *six* now recorded the fever was checked by the treatment adopted; these were of so mild a type that probably rest with a simple aperient might have proved sufficient to produce the same effect.

"In the second case, the fever appeared to be merely temporary, as the fever returned after an interval of *four* days, when I thought it inexpedient to persevere with the experiment.

"In the *three* remaining cases, it appeared to exert no effect, and, after continuing its use for *seven* days without any favourable result, other treatment had to be adopted to which the fever yielded in a single day in each case.

"From these remarks, it will be seen that my experience of the Calcic Quinovinate in the mild cases, on which I thought it prudent first to ascertain its qualities, was not such as to warrant my employing it in any severe cases, especially in dysentery, in which the experiment might prove to be at the expense of life to the sufferer."

Extract from Report from Surgeon C. A. Andrews.

Mercara.—"The conclusion at which I have arrived is that the drug has some curative power in certain cases of dysentery, but it is far less certain in its action than Ipecacuanha; it is, however, free from the nauseous properties of the latter drug, and in some cases even will effect a cure when the latter fails.

"I have had so few opportunities of experimenting with the drug in genuine, uncomplicated cases of dysentery, that I hesitate to give a more decided opinion about its action, but, although it is not likely to supersede Ipecacuanha, it will, I think, become a valuable aid in the treatment of this disease."

Extract from Report of Surgeon J. Houston, M.D.

Mysore.—"The medicine, in the form of solution, has been exhibited to *seventeen* patients, suffering from dysentery or diarrhœa; of these *ten* were treated at the Civil hospital and *seven* in the Mysore Jail. It has not proved successful in my hands, except in *one* instance, when it was administered to a prisoner for *seven* days. Patients suffering from dysentery and diarrhœa at the Civil hospital are often on admission in a very reduced state, and if the treatment adopted is not quickly effective, it cannot be persevered with, but must give way to such other measures as the nature of the case may seem to demand. I therefore usually did not consider it advisable to continue the use of the Quinovinate beyond a day or *two*, and at the Jail, where the cases of dysentery were second or third attacks, I thought it safest to have recourse at once to more established remedies.

"Though my experience of the Quinovinate has hitherto been discouraging, it appears to me probable that it may prove serviceable in bowel complaints, when complicated with splenic enlargment."

Extract from Report of Surgeon D. W. Trimnell.

Raepur.—"The number of days each case was under treatment was *five* and *half* days; in *twenty-one* cases no result was obtained, and the medicine had to be discontinued; each case under treatment was *five* and *half* days.

"In *seven* cases, irritation of the stomach and bowels occurred. The quantity taken by each case cured was *ninety-seven* and *half* grains; of those not cured, *one hundred* and *two* grains.

"In *one* case a protracted trial of *eighteen* days was made, but without results.

"I am of opinion that the drug is less efficacious than Quinine."

(True Extracts.)

(Signed) J. L. RANKING,

Deputy Surgeon-General,
Officiating Surgeon-General,
Indian Medical Department.

Order thereon, 2nd December 1873, No. 1,334.

Communicated to the Government Quinologist and to the Commissioner, Neilgherry Hills.

2. The Governor in Council concurs with the Surgeon-General, Indian Medical Department, in considering that further experiments with the Calcic Quinovinate need not be undertaken. The present result will be submitted for the information of His Grace the Secretary of State.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

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CACAO SEEDLINGS FOR THE NEILGHERRIES.

Proceedings of the Madras Government, Revenue Department, 9th December 1873.

Read the following endorsement of the Under-Secretary to the Government of India, Department of Agriculture, Revenue, and Commerce, dated 8th November 1873, No. 500:—

Read the following letter from C. J. LYALL, ESQ., Under-Secretary to the Government of India, Department of Agriculture, Revenue, and Commerce, (Agriculture and Horticulture), to the Superintendent of the Royal Botanical Gardens, Calcutta, dated Simla, 8th November 1873, No. 499.

I AM directed to inform you that four wardian cases of Cacao seedlings have been despatched by Dr. G. Bernoulli of Mazatenango (Guatemala), through Her Britannic Majesty's Consul at San Francisco, per British Steamer *Lord of the Isles*. These cases, when received, will be sent to you in the first instance, and I am to request that you will be good enough to examine them carefully and report on the condition in which they arrive. A copy of Dr. Bernoulli's letter, which is enclosed, will give you the necessary directions for their treatment.

2. Of the four cases (should they arrive in good order) one should be sent to Burmah, one to General Stewart for the Nicobars, a third to the Government of Madras, and as regards the fourth you will be good enough to place yourself in communication with the Government of Bengal.

Copy, with copy of Dr. Bernoulli's letter, forwarded to the Government of Madras.

(By Order.)

(Signed) C. J. LYALL,

Under-Secy. to the Govt. of India.

ENCLOSURE No. 1.

From Dr. G. BERNOULLI, to ALLAN O. HUME, ESQ., C.B., Secretary to the Government of India, Calcutta, dated 17th February 1873.

By the steamer leaving the port of Champerico on the 20th instant, I send to H. B. M.'s Consul at San Francisco, California, four wardian cases containing each about 50 seedlings of Cacao, part of Theobroma Cacao, and part of the pentagonum. I suppose the Consul will have occasion to forward them to you without delay and in good condition. I have procured some special recommendations for the Captains of the steamers between here and S. Francisco, and made out short instructions about the treating of the plants.

2. On arriving there, the seedlings ought to be transplanted as soon as possible to their definitive station at a distance of about 15—18 feet form each other. The climate must be hot and humid. Here the middle temperature is about 23—24° C. (extremes 16—30° C.) It rains six mouths of the year almost every afternoon with occasional showers in the dry season; the more it rains during the dry time, the better crop is expected. The trees must have a deep vegetable soil, and be planted in the shade of high growing forest trees, so as to have free ventilation below. The soil, of course, must be kept clean of weeds, principally the first and second year. Some cultivators cut the lower branches of the Cacao tree, and I think that it is profitable to do so, as the trunk grows stronger and the fruits of the trunk are larger than those of the branches.

3. The plants bear fruit after 4—5 years, flowering during the whole year, the principal crops being in January, May, and September, but I have to state that the annual product is very variable.

4. I hope the cases will arrive there in a good condition.

Order thereon, 9th December 1873, No. 1,383.

The case of Cacao seedlings intended for this Government will, on arrival, be sent to the Commissioner of the Neilgherries for the Burliar Gardens.

2. Meanwhile, the foregoing paper and its enclosure will be communicated to the same officer, with request that he will report whether the gardens already possess Cacao plants of both the species referred to in Dr. Bernoulli's letter, and if so, how many of each.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

CONTRIBUTION OF GRAIN BY THE RANI OF BOBILLY TO FAMINE SUFFERERS IN BENGAL.

Proceedings of the Madras Government, Revenue Department, 6th December 1873.

Read the following letter from J. R. DANIEL, ESQ., Acting Collector of Vizagapatam, to D. F. CARMICHAEL, ESQ., Secretary to Government, Revenue Department, Fort St. George, dated Vizianagram, 26th November 1873, No. 1,818:—

THE Rani of Bobilly has addressed me a letter in which she expresses her intention of

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placing, at the disposal of Government, for gratuitous distribution in the famine-stricken districts of Bengal, 40,000 maunds of paddy, I have, therefore, the honour to solicit the orders of Government in regard to this munificent offer on the part of the Rani. Should Government be pleased to accept it, the Rani wishes me to state that the paddy can be ready any time after the 15th February 1874, and can then be taken for shipment at either the port of Bimlipatam or Calingapatam.

Order thereon, 6th December 1873, No. 1,363.

The Governor in Council accepts with cordial thanks the very liberal and benevolent offer which has been made by the Rani of Bobilly. The Collector will arrange for the conveyance of the paddy to port and shipment to Calcutta at Government expense as soon as may be. The Bills of Lading should be forwarded to the Master Attendant, Calcutta, to whom a telegram should be sent as the shipments are completed.

2. Copy of these Proceedings will be furnished to the Government of India.

(True Extract.)
(Signed) D. F. CARMICHAEL,
Secretary to Government.

HINTS FOR THE FORMATION OF SEED DEPOTS.

Proceedings of the Madras Government, Revenue Department, 17*th December* 1873.

Read the following letter from W. R. ROBERTSON, Esq., M.R.A.C., Superintendent of Government Farms, to D. F. CARMICHAEL, Esq., Secretary to Government, Revenue Department, Fort St. George, dated Sydapet, 3rd December 1873, No. 902 :—

UNDER the sanction given in G. O., No. 1,033, dated the 24th of September 1873, authorizing me to furnish certain information required by the Government of Bengal, I have the honour to submit the following observations for the consideration of His Honour the Lieutenant-Governor.

2. I have been desired to suggest the steps to be taken for the formation of a central depôt for the supply of seeds, grafts, &c., to the public farms and gardens in the various provinces of Bengal.

3. I am in doubt regarding the sense in which "central" is used, whether in a geographical sense, or as simply indicating the head-quarters or centre of action; but I shall assume that it is in the latter, and that it is intended to establish the central depôt somewhere near Calcutta, the centre from which, in Bengal, all Government action emanates. I shall, also, take it for granted that the depôt is not to be merely a place of temporary deposit for seeds, grafts, &c., but that it will, in addition, afford facilities for preserving, acclimatizing, and multiplying the seeds, roots, cuttings, &c., of useful plants received from abroad.

4. To establish such an undertaking on a sound footing, it will be necessary to secure a block of suitable land, and to erect upon it the buildings needed; these buildings may be a granary in which seeds may be received, cleaned, stored, and again packed for despatch, a propagating and seed-testing house, and one or two sheds.

5. The area of land to be taken up need not at commencement be large, probably 20 acres would be quite sufficient. The soils should be as varied as it is possible to meet with on such a small area of land. The whole should be capable of being thoroughly drained, and ample irrigation means should be provided.

6. The buildings at first need not be extensive, but they should be so erected that at any time they can readily be extended in harmony with the original design in view to the economy of labour. The granary may consist of four rooms; a receiving-room, a sorting and cleaning-room, a packing-room, and a seed-room. The three rooms first mentioned need not be large; but it is of the utmost importance that the seed-room should have ample accommodation to admit of the seed being stored in thin layers over a large surface of floor, and to allow of it being readily turned and inspected. This room should contain no fixtures of any sort, and its walls should be plastered, in order that there should be no shelter for insects, &c. The ventilation of this room should be under complete control. The whole erection should be well and substantially built to guard against weevils, white-ants, rats, squirrels, &c., which, in a badly erected granary, are exceedingly destructive to the seeds stored. It is advisable that asphalte floors and iron roofs should be adopted. The propagating and seed-testing house may be an ordinary glass-house, in which the temperature can be regulated. The sheds may be simple erections, such as are found to be necessary.

7. Depôts should be started in a few selected districts to be worked as branches of the central depôt; indeed, without these branches the central depôt would be of little use beyond its own immediate neighbourhood. These depôts need not be more than mere local agencies for procuring and distributing seeds, plants, &c., &c.

8. The whole undertaking should, I think, be placed under the management of a practical seedsman, who also possesses some knowledge

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of the management of tree nurseries. There would not, I imagine, be any difficulty in securing the services of a competent man from the establishments of Messrs. Lawson and Sons of Edinburgh or of Messrs. Sutton and Co., of Reading, Berkshire, or, at any rate, through the agency of either of these firms.

9. The duties of the officer at the head of the Seed Department would be chiefly those of an ordinary seedsman; he should be the agency through which the wants of the different districts would be met; he should keep himself informed of the seed-producing capabilities of the different parts of Bengal, and should be able, at any time, to procure seeds from the best districts for use in localities in which, though the soils are good, the seed is inferior; and he should be well acquainted with the vegetable productions of tropical and semi-tropical countries, in order that he may, at all times, be able to procure such seeds, plants, &c., as may be required, and be able to advise as to the suitability of any newly-introduced crops or trees to the circumstances of any given locality in Bengal.

10. I am not aware whether there is any intention of organizing a system of farms over Bengal; but if there is, the central seed-depôt might be connected with the central farm, and the branch depôts with the district farms. If connected with such an agency, the action of the farms would become more satisfactory, as the seed of a superior kind produced on them would thus meet with a ready demand, and be more widely diffused over the country.

11. In conclusion, I would observe that the mere introduction of good seed into India, and the distribution of it over the country, will do little for the permanent benefit of Indian agriculture, unless accompanied by some general effort to improve the agricultural practice. It seems to me that before attempting to introduce largely improved varieties of trees and seeds from other countries, that we should endeavour first to bring about something like an equilibrium in the *quality* of our field productions. There is nothing which illustrates more forcibly the apathy and want of enterprise amongst our cultivators than the fact that in one district they are content to produce an inferior variety of tree or crop, while their neighbours, perhaps not a day's journey distant, in exactly similar circumstances, are producing trees and crops of greatly superior varieties. In work such as this, there is much to be done, and under present circumstances with far greater prospect of permanent good to the country than can possibly result from even a large expenditure of money in importing and spreading over the country valuable trees and seeds obtained from abroad.

ENCLOSURE. No. 1.

From R. KNIGHT, Esq., Assistant Secretary to the Government of Bengal, Agricultural Department, to W. R. ROBERTSON, Esq., Superintendent of Agricultural Experiments, Madras, dated Calcutta, 18th August 1873, No. 2,317.

I am directed by His Honour the Lieutenant-Governor of these Provinces to request you to be good enough, with the permission of the Governor in Council of Madras, to suggest the steps you would recommend this Government to take for the formation of a central depôt for the supply of seeds, grafts, &c., to the public gardens and experimental farms in these provinces, in which attempts are being made to improve the husbandry of the people.

2. His Honour will be greatly indebted to you if, in the midst of your numerous avocations, you can find time to suggest a plan, as little costly as possible, for meeting satisfactorily the numerous applications for seed, &c., which are now being received by this Government for the institutions in question.

Order thereon, 17th December 1873, No. 1,448.

This paper will be forwarded accordingly to the Government of Bengal.

(True Extract.)

(Signed) D. F. CARMICHAEL,
Secretary to Government.

FOREST PRODUCTS IN SOUTH CANARA.

Proceedings of the Madras Government, Revenue Department, 19th December 1873.

Read the following Proceedings of the Board of Revenue, dated 3rd December 1873, No. 2,458, Forest No. 78:—

Read the following letter from H. S. THOMAS, Esq., Collector of South Canara, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Siradi, 25th October 1873, No. 1,796-B:—

IN reply to the Proceedings of the Madras Government, dated 1st March 1873, No. 240,* I have the honour to enclose a list of forest-products obtainable in this district. These products are generally collected by the inhabitants in the vicinity of the jungles in small quantities and disposed of by sale to the bazaarmen near at hand. The trade in these products being very limited, the quantity collected

* Board's Proceedings, 14th March 1873, Forest Miscellaneous No. 53-1,522.

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and sold cannot be stated with any degree of accuracy. Almost all the products are consumed in the district, except a small portion of a few of them, such as those noted in the margin, which are exported to the northern ports.

Cardamom, honey, bees' wax, cinnamon bark, cinnamon flower, resins, gall-nuts, bamboo sprouts.

2. The most valuable of these products is cardamom; but a large quantity of this spontaneous crop is never gathered, and all efforts to collect it were failures, as the jungles are uninhabited by human beings, and wild animals take shelter in them. Measures may be adopted for the gathering of the cardamoms, but the cost of establishment and other expenses that will have to be incurred for the purpose will be out of all proportion to the price that would be realized by their sale.

3. Cinnamon bark and flower are procured; the former by stripping the trees, and the latter by plucking the flowers when in blossom. These processes necessarily retard the development of these trees. Nagabetta (a species of cane) is carried away in large quantities by way-farers and pilgrims frequenting the temple at Subramania, where they grow largely. Trees producing the wood-oil are also ruined in large numbers. If these destructions are restricted, we may eventually, in the course of some years, be in a position to command a moderate revenue from their sales.

4. It may be safely stated that there is at present no class of people in the district that can strictly be called forest-tribes. The men that collect these products live in villages near jungles. They are known by the general designation of (Malekudies) hill-residents. They are also called in some parts of the district (1), Maraties, (2) Malemaylaru, (3) Kudubies, (4) Gowdahs, (5) Koragars, (6) Davalus, (7) Naugarus, (8) Holyars, &c. These people can scarcely be said to trade in forest-products. They sell them to bazaarmen, and the sale-proceeds are generally so trifling that they are barely sufficient for their food and clothing which are very limited; for these men, in adverse seasons, live on roots, fruits, and game killed in the jungles, instead of grain.

5. The condition of these Malekudies has of late improved. Prior to Fusly 1267, when coomery cultivation was permitted, these men were inhabiting the jungles for carrying on their cultivation when they collected these products and sold them to advantage; but since the coomery cultivation was prohibited, these people have either migrated to Mysore and Coorg to work in the coffee plantations, where they are liberally remunerated, or have engaged themselves as serfs under wargdars in the inhabited parts of the district. All the people employed under the Neriya Hebbarti are Malekudies, and these are fed and clothed by her for collecting her cardamom crop.

6. Under the foregoing circumstances, I am not prepared to recommend any alteration in the system now pursued in the district regarding these products. The Malekudies should be left to their present persuits till we are in a position to introduce a system of leasing, on seigniorage, some of the principal and more valuable of the forest-products.

Enclosure No. 1.—List of Forest Products.

Submitted to Government, with reference to G. O., dated 1st March 1873, No. 240.

2. The Board see no reason for State interference with regard to forest-products in South Canara.

Order thereon, 19th December 1873, No. 1,463.

The Government concur with the Board generally; but the Collector should be called upon to explain more fully the alleged destruction of trees for wood-oil, and to suggest means of preventing it.

(True Extract)
(Signed) D. F. CARMICHAEL,
Secretary to Government.

Means of improving Native Agriculture.

Proceedings of the Madras Government, Revenue Department, 7th January 1874.

Read the following Proceedings of the Board of Revenue, dated 1st December 1873, No. 2,438 :—

Read the following letter from W. R. ROBERTSON, Esq., M.R.A.C., Superintendent of Government Farms, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Sydapet, 30th October 1873, No. 799 :—

I have the honour to acknowledge the receipt of Board's Proceedings, dated the 27th of October 1873, communicating copy of a letter from A. Wedderburn, Esq., to the Chief Secretary to Government, on the subject of agricultural improvement, and, as directed, now proceed to offer some observations on the suggestions made by Mr. Wedderburn.

2. I agree with him in the remarks made in paragraph 1 of his letter, relative to the high stipends allowed to district Farm Apprentices, but I have already addressed the Board fully on this subject. I also agree generally in the

observations made in paragraphs 2 and 3. With reference to the suggestions made in paragraph 4, I would remark that, as far as our means allow, every encouragement is given to native cultivators to visit the farms here and to examine for themselves into their working; still I think that much more may be done in this direction. Possibly, half a page in each of the local directories might be devoted to a short description of the objects Government have in view in establishing these institutions; but I believe that much more could be done by printing in the local gazettes a short paragraph giving the foregoing information, and explaining that all visitors to the farms would be made welcome. Indeed, that every ryot has a right to claim any information the farms can afford; that the farms may be visited on any work-day between the hours of 6 A.M. and 6 P.M., by any one desirous of doing so; and that, unless a personal interview is desired with me, no introduction of any sort is necessary, the farms being as free to the public as the Government Museum and other institutions of the kind.

3. I have noticed with regret that many ryots come here prepared with letters of introduction from some one of the Government officials of their district. There is no particular objection to this, especially if the bearer is a person of consideration; but I fear some formed the opinion that this letter of introduction is a sort of pass without which the farms cannot be seen.

4. As regards the other suggestions I think that something may be done by sending from here specimens of agricultural produce of an improved kind for exhibition at the head-quarters of each Collector; but it must be remembered that such produce is generally of a very perishable nature, and could only be exhibited for a very brief time; while some produce would be exceedingly difficult to send, so as to reach its destination in a condition *fit* for exhibition.

5. I have long held the opinion that in each district there should be a room in some public building devoted to the exhibition of the agricultural productions of the district and of those productions which it is desired to introduce into it, of samples of the soils of the district, of samples of the manures available in the district or procurable elsewhere at a moderate cost, of models of improved agricultural implements, &c.; but it seems to me that such a collection may most advantageously be connected with the farms to be started.

6. We derive a considerable part of our income from the District Pound Funds, and on this account, therefore, as well as on account of the general claims that all parts of the Presidency have on our time and on the means at our disposal, we certainly ought to do more for the agriculture of the districts than we have yet done. The scheme for agricultural education, which I have already had the honour of submitting to the Board, provides, in some measure, for meeting these claims.

The letter from the Superintendent Government Farms will be submitted to Government, with reference to Government endorsement, dated 6th October 1873, on the letter from the Collector of Coimbatore, dated 10th September 1873, No. 41.

2. The Collectors of the districts noted in the margin will publish Notices in the District Gazettes to the effect that the Government farms are open to the public, and that every facility is given to ryots and others visiting them to see the operations in progress. Notices to the same effect might be posted at the railway stations.

Tanjore, Trichinopoly, Coimbatore, Salem, North Arcot, South Arcot, Chinglepnt, Cuddapah, Bellary, and Nellore.

3. Collectors are informed that on application to the Superintendent of the Government Farms specimens of some of the least perishable products, such as maize, Carolina paddy, cotton, &c., will be furnished to them. The specimens should be accompanied by short notices descriptive of the method of cultivation, and should be exhibited to all who wish to see them at the Huzur Cutcherries. The Board do not think that anything more can be done in the way of local agricultural museums until the district farms and schools are established.

4. The Board are of opinion that it is highly desirable that Mr. Robertson should make a complete and leisurely tour of examination and inquiry in the provinces with a view to making himself acquainted with the actual practice of native agriculturists. The peculiarities of their methods, the shortcomings, difficulties, and the merits of their systems,—for they have merits,—are now almost unknown, and a knowledge of them is essential to rational efforts for improvement of native agriculture.

Order thereon, 7th January 1874, No. 18.

The instructions, paragraphs 2 and 3 to Collectors of districts, are approved.

2. The Government will deal with paragraph 4, separately, in passing orders on Board's Proceedings of 25th November last, No. 2,410.

(True Extract.)

(Signed) D. F. CARMICHAEL,

Secretary to Government.

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MISCELLANEOUS.

THE CANARA LAND CASE.

The evidence in this important case has been taken by commission in the District Court at Carwar. The further hearing in the High Court has been postponed *sine die* owing to the large number of documents produced, which require to be translated. The whole evidence can never be brought before the public, and few persons would have the leisure or inclination to read it if it were, yet the suit involves matters of interest not only to the people of Canara, but of India generally for the principle upon which the revenue requisite for the administration of the country is levied is of public importance, and, to regard the matter in a lower light, if too little is levied in one province, too much must be levied in the rest. We purpose running rapidly over the history of land revenue in North Canara from the earliest times of which we have any knowledge. The sketch must of necessity comprise only the most prominent features, but we trust it will be sufficient to enable our readers to form an opinion for themselves on the questions at issue. The district now known as North Canara comprises the most northern districts of the old province of the same name and the territories of the Rajah of Tondah. Canara and Tondah have had a separate history, and their land systems were formerly based on different principles. All the lands referred to in the suit are situated in the latter; but as it is probable that the plaintiff rests his claim principally on the course of the revenue administration of the former, it will be necessary to refer to both districts, and convenient to begin with the more important.

It is matter then of tradition that the tenures of Canara are of very ancient date, and had their origin long before the time of which we have any historical knowledge. We have no trustworthy account of the manner in which they were acquired, but it has been generally admitted that the proprietary right in the soil rested with the holders on condition that they paid a stipulated share of the produce to the Sirkar. According to the Shasters, that share was equivalent to the seed sown, and supposed to amount to one-sixth of the gross produce. Previous to the conquest of Canara by the princes of Madura, the land was held by people of the Nair tribe. After that event the privileges of the old holders were conferred on the Huller and other people of low caste, but the Pandian princes required their share of the produce free from the husk, by which device they raised the assessment about 10 per cent. The earliest fiscal measure of which we have any historical record is that of Harihar Rai, the first prince of the Bijayanuggur dynasty, who raised the Sirkar's share to one-fourth of the gross produce; but he too professed to be guided by Shasters, and retained only one-sixth for secular purposes, giving the rest to Brahmins and temples. He levied the assessment in money, not by fixing a certain amount for each field, but, so far as can be ascertained, calculating the money value of the produce due to the Sirkar. His assessment was called *shist* or standard assessment, and the name without the reality has been retained to the present day. No material change seems to have taken place for two centuries and a half. But in 1618, when the district fell into the hands of the princes of Bednore, an addition of fifty per cent was made to the revenue under the name of Sivappa Naik's *shist*. It is probably owing to this change that there is no concurrence of opinion as to what the old *shist* actually was. Some limit it to the Bijayanuggur assessment; others include in it all that was levied by the Bednore princes, applying the term *shamil* or extra cesses only to the additions made by the Mahomedan rulers.

It is the Bednore assessment which the Madras administrators regarded as the equitable limit to the Government demand, and in this light the term *shist* is more properly applicable to it. It cannot have amounted to less than one-third of the gross produce, and it was always laid down during the Company's rule as the principle on which a fixed settlement should be made, that this was the share to to which the Sirkar was theoretically entitled. An assessment at one-third of the gross produce would be considered at the present day to be very heavy. Yet it was the opinion of some of the Madras Collectors that the Bednore assessment was the lightest ever known. The state of the country at the time is described in the most glowing terms. The revenue was easily levied; the land was seldom, if ever, sold for arrears. In private transactions it was saleable from 20 to 30 years' purchase. No remissions were required; if assistance was needed by the landholders, it was given in the shape of a loan, which was easily recovered. Matters are different now, but the reason is certainly not that the assessments are heavier.

The Mysore princes succeeded. It would be uninteresting and of little use to detail the several additions they made to the revenue. Each amildar, with a desire to raise himself in the estimation of the sovereign, found some pretext to increase the demand. The administration is described as a series of cruel attempts to discover how much the province could bear. In the time of Tippoo Sultan, the revenue nominally due was double the Bednore assessment. It, of course, was not and could not be fully levied, for it would have amounted to two-thirds of the gross produce. But it was used as an excuse for extorting from the wretched ryots the utmost they could pay; indeed

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many had not left to them sufficient for their own subsistence. Such a system carried with it its own punishment. Most of the cultivators who had not been carried off by force fled from the province; none who could avoid it would undergo the tortures which attended on cultivation; and the source of revenue was in consequence dried up. When Major Munro entered the district, he found it almost a desert.

Of the early assessments in the districts which comprised the territories of the Rajah of Tondah, and which now form nearly one-half of North Canara, little is known. After the fall of Seringapatam when it was heard that Major Munro was marching northwards, the accounts were destroyed or carefully concealed, and the village officers ever after refused or were unable to produce them. It does not appear that any other reliable source of information respecting the revenue administration of this district previous to the Mysore conquest is known. It is matter of history that the Rajah, to pay a *nuzzur* when his dominions were invaded by the Moguls, levied an additional tax in a fixed proportion to what is called the *rekha* or standard revenue. From this it may be inferred that there was previously some regular system, and indeed it is authoritatively stated that Adil Shai of Vidyapoor framed one in at least one portion' of the district, but the principle on which it was based cannot be ascertained. The only system, however, which Hyder and Tippoo knew was to extort as much as they could in the same way as they did in Canara. Here too the nominal assessments were more than double the collections. The result was the same. But there was an additional source of inequality and injustice in Tōndah. The assessments were fixed in the gross on villages and groups of villages; and corrupt, unscrupulous patels and accountants were left to apportion them on the several holdings at their discretion. Major (afterwards Colonel) Munro took the two districts of Canara and Tondah in 1799, and they have since been administered by the same agency and to a certain extent on the same principles. He at once, however, came to the conclusion that the estates in Canara had from time immemorial been private property, while those in Tondah, with the exception perhaps of gardens, had not, and this opinion was endorsed by almost all subsequent Collectors. The Madras Government of the time was much satisfied with this state of things in the former district, as it was deemed to indicate an easy means of introducing "a permanent system of revenue and judicature," and it was afterwards professedly a principal object in the administration of the province to create private properties where they did not exist. A fitter opportunity may occur hereafter of discussing what this right of private property in the soil under the conditions and restrictions specified amounts to, as well as the means taken to extend it. For the present we shall content ourselves with setting out the other principal features of the Madras administration.

Sir Thomas Munro was at first strongly impressed with the ruin in which the rapacity of the Mysore princes had involved the district, and under the influence of this feeling he proposed that the assessment should be brought near to what it was before the Mahomedan conquest. Further experience led him to believe that the district could bear much more, and he recommended that the *shist*, or so-called standard assessment, together with three-fourths of the *shamil* or extra cesses of Hyder and Tippoo should be constituted the maximum assessment. It is stated that he urged greater remissions at first than he would have done under the impression that it was the intention of the Government to introduce the principle of the Permanent Settlement, and if too much was imposed in the first instance, it would be impossible to reduce it afterwards. Whatever may be thought of this style of reasoning—and few who are acquainted with the career of Sir Thomas Munro would readily attribute it to a mind so acute as his—it is certain that the Government had some such intention at the time, and a similar idea has been periodically coming to the front up till a comparatively late date. But no satisfactory or equitable principle upon which the proposed permanent assessment could be based had been discovered, beyond this that the Government is theoretically entitled to one-third of the gross produce. The fact that to take a fixed proportion of the produce from the holders of all lands leaves to each a different proportion of the *net* produce or a different profit seems to have been ignored. Mr. Babington urged something of this sort as early as 1827, but Government replied that the rule of taking one unvarying portion of the produce on all lands indiscriminately was merely nominal, and approved of the principle. Fortunately the approval of it had no effect, for it is not only unjust, but impracticable.

But we are anticipating. The step was taken at the beginning of introducing into the public accounts the *shist* and *shamil* as well as the yearly demand and collections. This seemed to be or at least has been deemed to be recognition of the claim that the *shist* is the only just assessment on the land: that part of the *shamil* was levied, though arbitrary, and that the two together formed the limit to which the Government could go. But this was not all. Up till the beginning of the Company's rule, the payments had been made in kind, when prices were high, and in money when prices were low; and, so far as can be ascertained, no assessments had been fixed in money, but the value of the proportion of produce due was calculated according to the price prevailing at the time. Major Munro discontinued

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rice payments, and directed all items to be entered in money. The effect of this united with the retention of the old terms was to change their nature altogether. The *shist* and *shamil* had no longer any relation to the produce, but were represented by fixed sums of money, no matter what the purchasing power of money might be. Even in what were formerly the dominions of the Rajah of Tondah, a fictitious *shist* and *shamil* were entered on the authority of the village officers. The only information which the higher officers had of this district was contained in an account of the total assessment which Major Munro had brought from Seringapatam. Subsequent Collectors did not adhere to Sir Thomas Munro's standard, nor indeed did he himself, and it is certain that he was not personally in favour of a permanent settlement. The demands on each estate, however, were moderate, and the people were happy in comparison with what they had been under the Mussulman dynasty. Mr. Read, who succeeded Sir Thomas Munro in the administration of the northern part of the district, and continued to be Collector there for seventeen or eighteen years, attempted to bring the revenue up to what it had been under the Mysore rulers, and was held to have caused thereby a decline of agriculture. The Board of Revenue were so strongly impressed with this idea, and with the weight of the assessments generally that they determined to try another mode of fixing the maximum. The principle was to strike an average of the actual collections for seventeen years on each estate, and make it the limit of the Government demand. The assessment was imposed accordingly by the Hon'ble Thomas Harris in 1819 in all the districts, but those which formerly comprised the territories of the Rajah of Tondah. The Board of Revenue were of opinion that no more equitable mode of assessing the district could be devised, and strongly pressed the introduction of it throughout the whole province. But they were induced to suspend its introduction into Tondah by Mr. Harris's account of the state of the country. In the absence of accounts, Sir Thomas Munro had adhered to the old system of fixing the demand on villages and groups of villages. In 1801, Mr Read made some inquiry into the produce of individual lands, but it was too meagre for any action to be taken upon it. The ryotwar system of fixing a separate assessment on each holding was not attempted till 1806, and it was then framed on the mere estimates of corrupt and deeply interested village accountants. Indeed it has all along been impossible to ascertain the actual condition of the lands otherwise than by experiment, than which there is no better proof of the lightness of the assessment. Besides there were no boundary marks, and no means of detecting fraudulent encroachment, connived at as it was by the village officers. Large areas were cultivated on which no assessment had been imposed. Some lands were held at an incredibly small assessment; others were assessed up to their capabilities. It was consequently obvious that to fix the future revenue on an average of past collections would be to perpetuate flagrant inequality and injustice. Mr. Harris saw no remedy but a survey and general revision of assessment. He proposed that the actual condition of each estate should be ascertained by experiments, and that the assessment should be fixed at one-third of the gross produce. A rough survey was made of all the districts, but the assessment was based upon it only in a small portion. The Board of Revenue advocated it till 1827, but the Government, though favourable to the principle, refused to sanction it till more information was collected on the subject, and it was indefinitely postponed. Meanwhile the fictitious *shist* and *shamil* were retained in the accounts, and in the annual settlements they were seldom exceeded.

Matters continued thus in the two divisions till 1832-33. It then came to light that Mr. Harris's assessment was as unsatisfactory as the preceding one. It was framed on insufficient information, and on accounts which showed nothing of the areas or resources of the lands. Up till 1820, when holdings were sub-divided, the parties had apportioned the assessment according to their private agreements. The result of all this was that some lands could easily pay Mr. Harris's assessment, and probably could have paid double; others appeared incapable of doing so, and it was supposed that there was little hope of their coming up to it. Mr. Viveash attempted to extend the principle of Mr. Harris's assessment by dividing estates into those which had paid and could pay the full amount, and those which could not, with other sub-divisions which need not be noticed. The desirability of perpetuating this division as a principle was argued; but the Board of Revenue and the Government, although retaining their desire for a permanent settlement, hesitated to sanction it on so crude a basis. The distinction was retained till 1843, when the Board directed that it should cease. It was at the same time shown that the want of a survey had been felt from the beginning, that all other attempts to assess the country equitably had failed. The Board declared that Government were in no way pledged to the existing state of things, and directed that in surveyed districts the survey accounts should form the basis of the annual settlements.

In 1836 Mr. Stokes who was sent as Commissioner to Canara noticed the gradual extinction of the old landholders, and the manner in which it was proceeding was regarded as a proof of the lightness of the assessment generally. The Nairs, as we have seen, were succeeded by the Huller and other tribes. In

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the time of Hyder and Tippoo most of the latter fled or were carried off. They were succeeded by Bunts or other persons of the Sudra castes. From the earliest times till the Company's accession to the government of the country, the assessment had never been so light, that the land besides paying it, could support idle landlords. Under the Bednore princes the estates were small, and generally cultivated by the holders themselves. A sufficient proportion of the produce was left with them to maintain themselves and families in comparative comfort, but not sufficient to maintain tenants besides themselves. At the beginning of the Company's rule the assessments, though based on the old principles, were calculated in money, and have since been so retained. No notice was taken of the fact that the value of money changes, although during the last twenty years to go no further back prices have more than doubled themselves. Had the holders been men of any education or foresight, they might have improved their condition, but ignorance and improvidence had their way. As their means increased, they increased their expenditure, and they did not stop within their means; for shows at marriages and other useless purposes they raised money on ruinous terms, and involved their estates to men of education and acuteness whom trade had drawn into the district.

The latter were principally Brahmins from Goa and the Concan. They saw that if they got possession of the land a sufficient proportion of the *net* produce would remain, after paying the Government assessment, to make land a profitable investment, and the possession of land became one of their dearest objects. Public servants were not behind in taking advantage of their position and their savings. In the contest the simple and ignorant farmers were outrun, and the greater part of the land passed from the purely agricultural to the commercial and other classes. This course of affairs was even encouraged by the Government. It was hailed as an accession of capital to the landed interest which would tend to the improvement of the lands and easier financial administration of the province. A Brahmin, who did not cultivate the lands himself, but let them out to Sudra tenants, was deemed a fair case for remission. The position of tenant of a wealthy landlord was said to be better than that of an impoverished landlord. Undue liberality to the idle classes who reap without sowing, is too often mistaken for justice and generosity to the *people*, as if the thousands who are crushed under them and who have no means of making their own wrongs heard, formed no portion of the *people*. During the later years of the Madras administration the necessity of a survey and assessment in proportion to the resources of the several lands was recognized more fully than ever. Various means were taken to bring home to the minds of the people that whatever they might expect hereafter, no permanent settlement had hitherto been made. But the difficulty and expense of a general survey and revision of assessment were balanced against the advantages, and the former were supposed to be of sufficient weight to justify further delay. Other doubts and difficulties from time to time harassed the minds of the rulers, and led them to constantly change their views. In 1851 the Board of Revenue, "owing to the numerous transfers of land which "had taken place on the faith of the demand "as it then existed and the serious evils which "would arise from any general interference with "the present settlement," thought the assessment introduced by Mr. Harris into districts which formerly comprised Canara should not be interfered with as a whole, but only in cases of obvious abuse. In 1853 they authorized the fixing of the assessment according to the quality or productive power of each holding, at least in some parts of the district, if not generally. Meanwhile the settlements were annually made as best they could be. But the pernicious system was retained of entering in the accounts the nominal and fictitious old assessment for one division, and the nominal assessment of Mr. Harris for another. This practice united with the fact that they had seldom, and only in exceptional cases been exceeded, led the people nothing loth to believe that whatever arrangement might be made within those sums, they formed a limit to the Government demand. We leave it to our readers to judge for themselves from the above facts on the main issue which the High Court of Bombay have to decide. That issue is substantially whether the action of the Madras Government, in not exceeding what was the money value of the alleged old assessment three quarters of a century ago, and the intention held at different times of introducing a permanent settlement which was never carried out, debars the Bombay Government from introducing a different system. The question of the applicability of the Bombay Survey Act to lands which have been designated the private property of the holders is of a different nature, and requires separate consideration.—V, *Indian Economist*, 30th September 1873, p. 29.

GREEN FODDER CROPS.

Green fodder crops should occupy the place in Indian agriculture that is filled by the root crop, in the agriculture of Europe. The agriculture of a country is never in a sound or healthy state while the majority of its crops are those known as exhaustive. The flourishing condition of British agriculture, at the present day, is due, chiefly to the British farmer having adopted the turnip and mangold as ordinary field crops, and employing them, in

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his rotations, as restorative crops to compensate his soil for the loss of fertilizing matters removed in the field produce he sells. The Indian farmer is troubled with no anxieties regarding the future productiveness of his soil, all the crops he grows are those of an exhausting character, by means of which he is gradually draining his land of all its available fertilizing matters; it is true that, as the crops he produces are small, he removes but little at the time of these fertilizing matters, still this does not, in the least, make the final result less certain. There is no good reason why this reckless practice should be continued; we possess an abundance of fodder crops well suited to the wants of the Indian cultivator, and the most of which he can well afford to grow. That a crop of green fodder would be of great value to the Indian farmer, all readily admit who know anything about the matter, but some express the doubt, that the farmer who cannot, at certain seasons, afford to feed himself and family in a proper manner, cannot afford to grow green fodder for his live stock. Such persons seem to consider that green fodder is a luxury, and not a necessity, but, such an opinion is very erroneous; in this country green fodder is not a luxury, but an actual necessity. In most districts, during six months in the year, our so-called pastures are perfectly bare, and at such times our live stock die in thousands, while many of the animals that manage to exist over this period become so emaciated and weakened that, they fall an easy prey to the diseases which generally prevail with the first flush of the monsoon grass. Besides; when working-cattle have been half starved during a long drought, there results a considerable money loss, in their low weak condition, at the season when their active services are specially needed to re-commence the tillage operations; and every owner of draught animals knows how very costly it is to put such animals again in working order after they have once been allowed to fall out of condition. We hold that no person can afford to keep live stock who cannot afford to feed them fairly. If a farmer imagines that his means necessitate him to keep his live stock just above the starvation point, it is evident that, he has no business to be an owner of stock. But, we contend that there are very few instances indeed, in which the circumstances of the cultivator are so bad as this: we believe, that if there is a wish to grow fodder, the cost of raising it will seldom be an obstacle. But, the fact is, the cost of producing the fodder is not the real objection; our cultivators know well enough that they can produce good fodder at a very trifling cost; the real objections are;—that for the crop of fodder produced *they do not see the return in rupees*, their repugnance to any change in their customs, and their general unwillingness to exert themselves to avert calamity of any kind; they trust to fate, and hope that as their stock survived the effects of the last bad season, they will survive the effects of the next, and are unwilling to see that, by the expenditure of a little labour in the production of a crop of fodder, they may preserve the life of a bullock which might otherwise have been lost, may keep their working-cattle in condition fit for work, and sustain in a healthy state the breeding animals and young stock they possess. But we fear, that with many of our cultivators the wretched narrow-minded policy of saving, at the expense of the usefulness, the health, or the lives of their stock, is too attractive; as the production of the fodder would cause trouble, and probably the expenditure of a rupee or two in buying seed, and rather than submit to this they prefer to face the risk.

To any one with a particle of common sense the risk would be a great one. Place the cost of seed, and the exertion of raising the fodder, with the 15 or 20 tons of fodder produced, against the certain loss on 4 or 5 head of stock, brought down almost to the starvation point, with loss of the full services of the working cattle, from poverty and weakness, when, at the beginning of the season their services are so important to the farmer, leaving out of the calculation the value of the stock that might have died:—and how does the matter stand? The general results which attend the liberal use of fodder in feeding farm stock are,—well grown, properly developed, draught animals with strength and stamina to enable them to perform, without undue fatigue the work demanded of them; are success in breeding, and in rearing horses, cattle and sheep; are larger profits in the dairy, and better returns for fattening sheep and cattle. But the benefits do not end here, for the consumption of a large quantity of fodder on the farm results in a correspondingly large supply of manure, and the farmer, who has an abundance of manure, has the means to enable him to grow the most valuable and most remunerative farm crops, or if he prefers it, to greatly increase the yield of such crops as are more generally cultivated. Thus, the benefits, produced on a farm by the production on its soils of a crop of fodder, and by the consumption of this fodder by its own stock, are in value far beyond the immediate cash returns obtained thereby. The influences for good thus set in operation will continue to act and to re-act for years, provided that no unnatural disturbances are allowed to interfere with their action; and in this way the productiveness of the farm is materially increased. On a farm that has not previously produced a fodder crop, the introduction of such crops is peculiarly beneficial, especially when the produce raised is consumed by its own stock. The few tons of manure thus made represent so much additional producing

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power placed at the disposal of the cultivator, producing force which previously remained inert and useless. But in addition to the beneficial effects produced by the liberal use of fodder on live stock, and on the supply of manure, we must not lose sight of the benefits to the land, that result from the cultivation on it of certain of our fodder crops, more especially of those that are grown under drill cultivation and are cut before having arrived at maturity. But we must pass on to speak more in detail of our indigenous fodder crops, and of those fodder crops that have been introduced and grow well in this country. Of such crops we possess a great number of varieties; a few belong to the order Leguminosœ; but the bulk are cereals. Some are only suited to districts in which the temperature during the time of their growth does not fall below 70 degrees, while others, as the oat, lucern, saintfoin, vetch, &c., &c., will grow and yield fair returns though the temperature should occasionally sink below 40 degrees.

We cannot, in the space of a couple of articles, discuss the peculiarities and capabilities of each of the different fodder-producing plants known in India, we shall, therefore, refer only to some of the more important and more easily cultivated kinds. Our fodder plants may be divided under the following heads:—Leguminous plants, gram-producing plants, and grasses. We cannot, with scientific accuracy, classify all the fodders we shall mention under these heads, but to classify them in this way will be convenient, and be sufficiently accurate for all practical purposes. Under the first of these heads, we may place horse gram or cooltie *(Dolichos uniflorus)*; green gram or moong *(Phaseolus mungo)*; motchay cottay; lucern; saintfoin; vetches or tares; and clover of sorts. Besides these, there are other varieties of gram, the different dhals, &c. The most generally useful of these fodders is the kind we mentioned first, it is essentially an Indian fodder, and is especially suited to the wants of the Indian farmer. It can be grown with success on a wide variety of soils: indeed no soil is too poor, provided that it is moderately free and is in a healthy state. But like all crops it yields the best results, when grown on soils that are in a good manural condition; and, in common with all Leguminous plants it delights to grow on soils which contain a fair percentage of lime. The cultivation is very simple; the soil should be turned over to the depth of 4 or 5 inches, and then manure should be applied, and the best way of doing this is to spread it broadcast over the surface of the newly ploughed land, and then to cover it either by a cross ploughing or by a double turn of the harrows, the former, when the manure is long and rough, the latter, when the manure is short or powdery. The manure may consist of farm-yard manure, of ashes, of lime, fresh slacked lime, or old mortar, of brickyard refuse, of oil cake, &c., &c. It must be borne in mind that though the cooltie plant will grow under very unfavourable circumstances, it pays well for any suitable manure that may be applied to it, especially when fodder, and not the pulse is required. After the manure has been worked into the soil, or well covered, the land may be rolled or harrowed, to make the surface as uniform as possible, and after this has been done, the seed may be sown. We prefer to sow the crop by the seed-drill instead of broad-cast by the hand. When sown in drills we are enabled to work the bullock-hoe and hand-hoes through the crop during its growth, thus keeping down weeds and preserving the surface of the soil in a loose friable state a state the most suitable for utilizing thoroughly the beneficial effects of dew. And here, we would remark, in passing, that a heavy dew always produces a greater effect for good on a crop of gram, than a fall of rain which might yield three or four times as much moisture. In fixing the distance apart of the drills, we are guided by the kind of weather that may be expected during the time that the crop is on the land. If we anticipate wet weather we widen the distance, but if we expect dry hot weather, we make the distance as close as will leave just space enough to allow the cattle to pass along when drawing the hoes; the smallest intervals may be, say 12 inches, and the widest intervals may be 20 inches, between these two extremes any distance may be chosen; the quantity of seed will depend upon the closeness with which the land is drilled, but from 30 to 40 lbs. per acre, as the drills are close or wide, will be a fair seeding. The crop should be hoed, at least twice during its growth: it pays well for a liberal use of the hoe. Cutting should commence when the flowers appear; which will generally be in eight or nine weeks after the date of sowing. The yield should vary from 6,000 to 10,000 lbs. per acre, according to the season experienced, the condition of the soil, and the care bestowed on the crop. It is well to avoid having to harvest the crop at a showery season of the year; it is so readily beaten down by heavy rains, while it retains water like a sponge; but the sowings may be arranged to avoid this. Two crops may always be obtained on the same land in one year. We have grown three crops, and this may generally be done if care is exercised to prevent the loss of moisture, when ploughing the stubble of the previous crop for the crop to follow. We are afraid to say at how small a price the Indian cultivator can produce a ton of cooltie fodder. Certainly his actual money outlay, including rent, will not exceed 1 Rupee per ton, we have produced it by hired labour at less than Rupees $2\frac{1}{2}$ per ton, making due allowance for rent, &c. All kinds of ordinary farm stock are fond of this fodder, and thrive on it, sheep especially.

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We have, for a few days experienced a difficulty with fresh stock in getting them to eat this fodder, but this seldom continues beyond a week, and we have at times maintained in condition the whole stock of a large farm entirely by this fodder. We know of no better crop than cooltie for consumption on the land by sheep, especially on light arable soils where the benefit of the practice is very apparent.

Many of the foregoing remarks on the cultivation of cooltie, apply with almost equal force to the cultivation of green gram, and motchay cottay. Though neither of these crops are so valuable to the Indian cultivator as that just referred to, they possess certain qualities, which make them useful crops under certain conditions: the chief of which is their ability to withstand the ill effects of heavy rains; they will grow and thrive during a wet season that would be destructive to a crop of cooltie fodder. As both produce plants that are nearly twice as large as the cooltie plant, their seed requires to be drilled at wider intervals, say from 18 inches to 24 inches apart; and about 30 lbs. of seed per acre, will be enough for a full seeding even when the narrow spaces are adopted. Both these crops are very liable to be injured by caterpillars and other insects; we have lost many promising crops from this cause. They are large producers when grown on a free soil in good condition, and their fodder is relished by stock of all kinds. Both need more moisture in the soil at the time of sowing, and a more abundant fall of rain afterwards than the cooltie crop. Indeed if the soil is sufficiently moist at the time cooltie is sown to bring the young plants above ground, the dews alone will suffice to bring it to its full growth, but rain is needed for both the other crops. We shall continue the subject in our next.—V, *Agricultural Gazette of India*, 30th September 1873, p. 30.

ACTS OF THE GOVERNMENT OF INDIA.

THE following Act of the Governor-General of India in Council received the assent of His Excellency the Governor-General on the 11th September 1873, and is hereby promulgated for general information:—

ACT NO. XIV OF 1873.

An Act to provide for the security and application of the effects of Officers and Soldiers becoming insane on service, but not removed, put on half-pay, or discharged.

Preamble.

Whereas it is expedient to provide for the security and application of the effects of Officers and Soldiers becoming insane on service, but not removed, put on half-pay, or discharged; It is hereby enacted as follows:—

Short title.

1. This Act may be called "The Lunatic Soldiers' Property Act, 1873:"

Local extent.

It extends to the whole of British India, and, so far as regards subjects of Her Majesty, to the dominions of Native Princes and States in India in alliance with Her Majesty;

Commencement.

And it shall come into force on the passing thereof.

Interpretation-clause.

2. In this Act—

'Officer.'

"Officer" means a Commissioned Officer of Her Majesty's Army, or of Her Majesty's Indian Army; and

'Soldier.'

"Soldier" means a soldier of Her Majesty's Army, or a European soldier of Her Majesty's Indian Army, including a Warrant and a Non-Commissioned Officer.

Securing of effects of insane by Committee.

3. When an Officer or Soldier becomes insane on service, but is not removed, put on half-pay, or discharged, on the ground of insanity, such Committee of Officers as the Governor-General in Council may from time to time prescribe, shall immediately secure all such of his effects as are within the territories to which this Act extends.

Application of effects.

4. Such effects shall be liable to be applied in or towards payment of any expenses necessarily incurred in the maintenance and removal of such Officer or Soldier to any place in India, and of any such expenses and debts incurred and owing by him as would, under Part I of Regimental Debts' Act, 1863, be preferential charges on his moveable property in case he had died on service, with the like preference, in the like order, and subject to the like provision for decision of doubt or difference, as would in that case apply, as nearly as may be, *mutatis mutandis*.

Stay of proceedings by Committee on payment of expenses and debts by representative.

5. If any person who would, if such Officer or Soldier were dead, be entitled to take out representation to him (otherwise than as a creditor) or his wife (if any), or any near relative, pays in full the expenses and debts aforesaid, the said Committee shall not further interfere in relation to the property.

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6. If such payment is not made, then, within one month after the insanity is known at the quarters where the property is, the said Committee may sell and convert into money such part of the property as they think fit,

Administration by Committee.

and, after paying out of the proceeds the expenses attending the discharge of their duties, shall pay thereout the expenses and debts aforesaid,

and shall dispose of any property then remaining in their hands in such manner as may from time to time be prescribed by the Governor-General in Council, or by such Officer as he appoints in this behalf, to the end that the same may be applied for the benefit of the Officer or Soldier to whom it belongs.

7. Every payment or application of money, and every sale or other disposition of property, made by any Committee in pursuance of this Act, shall be valid as against all persons whomsoever.

Validation of payments, sales and dispositions by Committee.

And every Officer belonging to any such Committee shall be discharged from all liability in respect of the money or other property so paid, applied or disposed of.

Indemnity.

8. The Governor-General in Council may, from time to time, prescribe such regulations as may seem fit for the better execution of any of the purposes of this Act.

Power to make regulations.

(Signed) WHITLEY STOKES,
Secy. to the Govt. of India.

Re-published by order of the Right Honourable the Governor in Council.

(Signed) W. HUDLESTON,
Chief Secretary.

The following Act of the Governor-General of India in Council received the assent of His Excellency the Governor-General on the 30th December 1873, and is hereby promulgated for general information :—

Act No. XX of 1873.

An Act to continue certain privileges and immunities now enjoyed by Prince Azím Jah Bahádur, as Prince of Arcot, to his sons on succeeding to the title.

Whereas by Royal Letters Patent, dated the second day of August 1870, under the Sign Manual, Her Majesty the Queen was pleased to confer the title of Prince of Arcot upon Prince Azím Jah Bahádur and his heirs, as in the said Letters Patent set forth; And whereas in view to maintaining the dignity of the said title, it is expedient to attach to it for some time to come certain privileges and immunities which by Act No. XXXVII of 1858 are personally attached to the said Prince Azím Jah Bahádur and to certain ladies members of the family of the late Nawáb of the Carnatic, and to prevent the risk of the Prince of Arcot for the time being involving himself in pecuniary liabilities; It is hereby enacted as follows :—

Preamble.

1. This Act may be called "The Prince of Arcot's Privilege Act, 1873:"

Short title.

It extends to the whole of British India:

Local extent.

It shall come into force on the passing thereof;

Commencement.

And it shall remain in force so long only as the said title of Prince of Arcot is held by the said Prince Azím Jah Bahádur, or by one of his four sons in the said Letters Patent designated by name as follows:—

Continuance.

Mohamed Badí Ullah:
Ahmad Ullah:
Nur Ullah Miyáan; and
Ghulám Muhíy-ul-dín.

2. No civil suit shall be commenced or prosecuted, and no civil writ or process shall be sued forth, in any Court against the person or property of the Prince of Arcot for the time being, unless such suit is commenced, or such writ or process is sued forth, with the previous consent of the Governor of Fort St. George in Council, such consent to be certified by the signature of one of the Secretaries to the local Government;

Bar of civil suits, &c., against holder for time being of title of Prince of Arcot, unless with consent of Madras Government.

and any civil suit, writ or process commenced, or sued forth against the person or property of any such person as aforesaid, without such consent certified as aforesaid, shall be null and void.

3. The Prince of Arcot for the time being shall be incapable of entering into any contract which may give rise to any pecuniary obligation on his part.

Prince of Arcot for time being to be incapable of contracting.

(Signed) WHITLEY STOKES,
Secy. to the Govt. of India.

Re-published by order of the Right Honourable the Governor in Council.

(Signed) W. HUDLESTON,
Chief Secretary.

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